The Course Announcement is intended to provide only general information about Brown University; including courses offered, and it is not in any manner contractually binding.

The information contained herein is subject to revision and change at any time.

EQUAL OPPORTUNITY AND NONDISCRIMINATION
Brown University does not discriminate on the basis of sex, race, color, religion, age, handicap, status as a veteran, national or ethnic origin, or sexual orientation in the administration of its educational policies, admission policies, scholarship and loan programs, or other school-administered programs.
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## Academic Calendar

### Summer 2023

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<tr>
<td>March 27, 2023</td>
<td>Mon.</td>
<td>Registration opens for Summer 2023 for Online - MPH students at 9:00 a.m. EDT.</td>
</tr>
<tr>
<td>April 3 - April 13, 2023</td>
<td>Mon. - Thurs.</td>
<td>Registration for Summer courses for continuing Brown undergraduates with an EDT on Monday April 3 and continues through Thursday April 13 at 5:00 p.m. EDT.</td>
</tr>
<tr>
<td>April 18 - April 25, 2023</td>
<td>Tues. - Tues.</td>
<td>Registration period for fall courses for Brown undergraduates. Summer registration closed during this period.</td>
</tr>
<tr>
<td>April 26 - June 21, 2023</td>
<td>Wed. - Wed.</td>
<td>Registration period for Summer courses for Brown undergraduates, reopens at 9:00 a.m. and remains open until Wednesday June 21 at 5:00 p.m. EDT.</td>
</tr>
<tr>
<td>June 18, 2023</td>
<td>Sun.</td>
<td>Residence halls open.</td>
</tr>
<tr>
<td>June 20, 2023</td>
<td>Tues.</td>
<td>Summer Session classes begin.</td>
</tr>
<tr>
<td>June 21, 2023</td>
<td>Wed.</td>
<td>Last day to change courses (5:00 p.m. EDT deadline). All students MUST be in their registered courses by Thursday, June 22.</td>
</tr>
<tr>
<td>July 3, 2023</td>
<td>Mon.</td>
<td>Last day to change grade options (5:00 p.m. EDT deadline). (All students MUST be in their registered courses by Thursday, June 22.)</td>
</tr>
<tr>
<td>July 28, 2020</td>
<td>Fri.</td>
<td>Classes end.</td>
</tr>
<tr>
<td>July 29 - Aug 1, 2023</td>
<td>Sat. - Tues.</td>
<td>Reading period.</td>
</tr>
<tr>
<td>August 1, 2023</td>
<td>Tues.</td>
<td>Last day to drop a course (5:00 p.m. EDT deadline). Last day to initiate a Course Performance Report via ASK.</td>
</tr>
<tr>
<td>August 4, 2023</td>
<td>Fri.</td>
<td>Summer Session ends.</td>
</tr>
<tr>
<td>August 5, 2023</td>
<td>Sat.</td>
<td>Residence halls close.</td>
</tr>
</tbody>
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### Fall 2023

<table>
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<tr>
<th>Date</th>
<th>Day(s)</th>
<th>Event Description</th>
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</thead>
<tbody>
<tr>
<td>July 12, 2023</td>
<td>Wed.</td>
<td>Registration opens for Semester I 2023-24 for Online - MPH students at 9:00 a.m. EDT.</td>
</tr>
<tr>
<td>Aug. 1, 2023</td>
<td>Tues.</td>
<td>Last day for payment of charges.</td>
</tr>
<tr>
<td>Aug. 29, 2023</td>
<td>Tues.</td>
<td>Beginning of Graduate School All-Student Orientation.</td>
</tr>
<tr>
<td>Sept. 1 - Sept 4, 2023</td>
<td>Fri. - Mon.</td>
<td>Registration of new undergraduate and all graduate students students (except Online - MPH) for the fall semester begins at 4:00 pm EDT Friday and ends at 11:59 p.m. EDT Monday Sept 4. (Maximum of 4 credit hours allowed for undergraduates).</td>
</tr>
<tr>
<td>Sept. 5, 2023</td>
<td>Tues.</td>
<td>Registration re-opens at 9:00 a.m. EDT on Sept 5 for all students for the fall semester. (Up to a maximum of 5 credit hours allowed).</td>
</tr>
<tr>
<td>Sept. 5, 2023</td>
<td>Tues.</td>
<td>Opening Convocation at 4:00 p.m. EDT</td>
</tr>
<tr>
<td>Sept. 6, 2023</td>
<td>Wed.</td>
<td>Classes of the first semester begin.</td>
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For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
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<tr>
<td>Nov. 9, 2023</td>
<td>Thurs. Registration opens for Semester II, 2023-24 for undergraduate students semester levels 03-04 at noon EST. Registration remains open until Tuesday, November 14, 5:00 p.m. EST. (Maximum of 4 credit hours allowed for undergraduates).</td>
</tr>
<tr>
<td>Nov. 10, 2023</td>
<td>Fri. Deadline for submission of proposals for College Curriculum Council-approved undergraduate group study projects (GISPs), independent study projects, and internships for credit) for Semester II.</td>
</tr>
<tr>
<td>Nov. 10, 2023</td>
<td>Fri. Registration opens for Semester II, 2023-24 for undergraduate students semester levels 01-02 at noon EST. Registration remains open until Tuesday, November 14, 5:00 p.m. EST. (Maximum of 4 credit hours allowed for undergraduates).</td>
</tr>
<tr>
<td>Nov. 11 - Nov. 26, 2023</td>
<td>Wed. - Sun. Thanksgiving recess beginning Wednesday at noon EST.</td>
</tr>
<tr>
<td>Nov. 22 - Nov. 26, 2023</td>
<td>Wed. - Sun. Thanksgiving recess beginning Wednesday at noon EST.</td>
</tr>
<tr>
<td>Nov. 27, 2023</td>
<td>Mon. Classes resume.</td>
</tr>
<tr>
<td>Nov. 29, 2023</td>
<td>Wed. Registration opens for Semester II, 2023-24 for Online - MPH students at 9:00 a.m. EST.</td>
</tr>
<tr>
<td>Dec. 1, 2023</td>
<td>Fri. Deadline for undergraduates to request a personal leave (including employment and military leave) or to request Full-time Study Away status for Spring. Any Full-time Study Away approved by the Study Away Review Committee for which the Registrar does not receive enrollment verification will not be honored.</td>
</tr>
<tr>
<td>Dec. 2, 2023</td>
<td>Sat. Midyear Completion Celebration at 4:00 p.m. in Salomon De Ciccio Family Auditorium. Reception to follow in Sayles Hall.</td>
</tr>
<tr>
<td>Dec. 4, 2023</td>
<td>Mon. Last day of Fall RISD classes.</td>
</tr>
<tr>
<td>Dec. 8, 2023</td>
<td>Fri. Beginning of Reading Period (optional and at the discretion of the instructor.)</td>
</tr>
<tr>
<td>Dec. 12, 2023</td>
<td>Tues. Classes end for courses not observing the Reading Period. Last day to drop a course (5:00 p.m. EST deadline) or to request an incomplete from an instructor.</td>
</tr>
<tr>
<td>Dec. 12, 2023</td>
<td>Tues. Last day to initiate a Course Performance Report via ASK.</td>
</tr>
<tr>
<td>Dec. 12, 2023</td>
<td>Tues. UG CONCENTRATIONS: Last day for students to declare second or third concentrations in ASK for students in their penultimate semester (typically the 7th semester) who are declaring a second/third concentration (5:00 p.m. EST deadline).</td>
</tr>
<tr>
<td>Dec. 12, 2023</td>
<td>Tues. UG CERTIFICATES: Last day for students in their ante-penultimate (typically 6th) semester to declare an undergraduate certificate in ASK.</td>
</tr>
<tr>
<td>Dec. 13, 2023</td>
<td>Wed. Last day for approved 7th (or penultimate) semester undergraduates in eligible concentrations to submit writing completed in the concentration in ASK to complete part II of the writing requirement. Concentration advisors must approve submitted writing in ASK by the last day of the semester.</td>
</tr>
<tr>
<td>Dec. 13 - 21, 2023</td>
<td>Wed. - Thur. Final Examination Period (inclusive of Sunday)</td>
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**Spring 2024**

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<td>Jan. 1, 2024</td>
<td>Mon. Last day for payment of charges.</td>
</tr>
<tr>
<td>Jan. 4, 2024</td>
<td>Thurs. First day of RISD Winter Session.</td>
</tr>
<tr>
<td>Jan. 11, 2024</td>
<td>Thurs. Last day to register for a Winter RISD course without a fee or change a grade option for a Winter RISD course (5:00 p.m. EST deadline).</td>
</tr>
<tr>
<td>Jan. 12, 2024</td>
<td>Fri. Theses/Dissertations of candidates for Masters and Ph.D. degrees in February due.</td>
</tr>
<tr>
<td>Jan. 15, 2024</td>
<td>Mon. Martin Luther King, Jr. holiday. No University exercises.</td>
</tr>
<tr>
<td>Feb. 6, 2024</td>
<td>Tues. Last day to add a course without a fee. (5:00 p.m. EST deadline) Banner web will be taken down for approximately one hour. Once relaunched, all course adds require Instructor override and will be charged a late fee of $15 per course.</td>
</tr>
<tr>
<td>Feb. 7, 2024</td>
<td>Wed. Last day of Winter RISD classes.</td>
</tr>
<tr>
<td>Feb. 15, 2024</td>
<td>Thurs. First day of RISD Spring Session.</td>
</tr>
<tr>
<td>Feb. 21, 2024</td>
<td>Wed. Classes resume. Last day to add a course (includes late fee), change from audit to credit, or change a grade option declaration (5:00 p.m. EST deadline).</td>
</tr>
<tr>
<td>Feb. 22, 2024</td>
<td>Thurs. Last day to register for a Spring RISD course without a fee or change a grade option for a Spring RISD course (5:00 p.m. EST deadline).</td>
</tr>
<tr>
<td>February 27, 2024</td>
<td>Tues. Last day to receive any partial tuition refund.</td>
</tr>
<tr>
<td>March 8, 2024</td>
<td>Fri. Last day to change from credit to audit in a course (5:00 EST p.m. deadline).</td>
</tr>
<tr>
<td>March 9, 2024</td>
<td>Sat. Mid-semester.</td>
</tr>
<tr>
<td>April 1, 2024</td>
<td>Mon. Deadline for undergraduates on personal leave (including employment and military leave) or on Full-time Study Away status to request return to studies at Brown for Fall.</td>
</tr>
<tr>
<td>April 1, 2024</td>
<td>Mon. Classes resume.</td>
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<td>Apr. 9, 2024</td>
<td>Tues.</td>
<td>Students on serious warning who wish to drop a course after this date must meet with an academic dean for advising and to obtain a drop code.</td>
</tr>
<tr>
<td>Apr. 12, 2024</td>
<td>Fri.</td>
<td>Deadline for submission of proposals for College Curriculum Council-approved undergraduate group study projects (GSPs), independent study projects, and internships for credit for Semester I.</td>
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<tr>
<td>Apr. 26, 2024</td>
<td>Fri.</td>
<td>Reading Period begins and will end on May 7 (optional and at the discretion of the instructor).</td>
</tr>
<tr>
<td>May 1, 2024</td>
<td>Wed.</td>
<td>Deadline for undergraduates to request a personal leave (including employment and military leave) or to request Full-time Study Away status for Fall. Any Full-time Study Away approved by the Study Away Review Committee for which the Registrar does not receive enrollment verification will not be honored.</td>
</tr>
<tr>
<td>May 1, 2024</td>
<td>Wed.</td>
<td>Theses of candidates for Masters and Ph.D. degrees in May due.</td>
</tr>
<tr>
<td>May 7, 2024</td>
<td>Tues.</td>
<td>Last day to initiate a Course Performance Report via ASK.</td>
</tr>
<tr>
<td>May 7, 2024</td>
<td>Tues.</td>
<td>Classes end for courses not observing the Reading Period. Last day to drop a course (5:00 p.m. EDT deadline) or to request an incomplete from an instructor.</td>
</tr>
<tr>
<td>May 7, 2024</td>
<td>Tues.</td>
<td>Reading Period ends.</td>
</tr>
<tr>
<td>May 7, 2024</td>
<td>Tues.</td>
<td>UG CONCENTRATIONS: Last day for students to declare second or third concentrations in ASK for students in their penultimate semester (typically the 7th semester) who are declaring a second/third concentration (5:00 p.m. EDT deadline).</td>
</tr>
<tr>
<td>May 7, 2024</td>
<td>Tues.</td>
<td>UG CERTIFICATES: Last day for students in their ante-penultimate (typically 6th) semester to declare an undergraduate certificate in ASK.</td>
</tr>
<tr>
<td>May 8 - 17, 2024</td>
<td>Wed. - Fri.</td>
<td>Final Examination Period. (No exams on Sunday May 12).</td>
</tr>
<tr>
<td>May 8, 2024</td>
<td>Wed.</td>
<td>Last day for approved 7th (or penultimate) semester undergraduates in eligible concentrations to submit writing completed in the concentration in ASK to complete part II of the writing requirement. Concentration advisors must approve submitted writing in ASK by the last day of the semester.</td>
</tr>
<tr>
<td>May 15, 2024</td>
<td>Wed.</td>
<td>Last day of Spring RISD classes.</td>
</tr>
<tr>
<td>May 26, 2024</td>
<td>Sun.</td>
<td>Commencement.</td>
</tr>
</tbody>
</table>

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
General Regulations

General Academic Requirements

Undergraduate degrees:

Information regarding general academic degree requirements are listed under 'The College' section of the University Bulletin as well as on the respective websites of the Office of the Registrar (http://www.brown.edu/about/administration/registrar/degree-guidelines-0/college/) and the Dean of the College (http://brown.edu/Administration/Dean_of_the_College/degree)/.

Advanced degrees:

Information regarding Advanced degree requirements for specific academic programs are listed on the Graduate School (http://www.brown.edu/academics/degree-granting/) website. Information regarding general and overall guidelines for advanced degrees are also listed on the Office of the Registrar (http://www.brown.edu/about/administration/registrar/degree-guidelines-0/graduate-school/) website.

Enrollment and course registration

Instructions about enrollment will be sent via Today@Brown prior to the opening of each semester to all students. To complete enrollment, all requirements of the pertinent administrative offices of the University must be met, including registration for courses, payment of accounts, and arrangements for housing as appropriate. Fees will be charged for failure to meet established deadlines. All students must complete enrollment in order to be eligible to remain at the University.

Students are urged to note carefully the instructions provided at registration in order to assure eligibility for enrollment, proper registration in courses, and to avoid unnecessary payment of Change of Course fees. All registration materials and/or processes are considered official university documents. Any falsification of signatures or other tampering with such forms/processes constitutes a violation of the Academic Code.

All registration-related deadlines for each semester are listed in the 'Academic Calendar' section of the Bulletin and also on the Office of the Registrar website as well as answers to common registration-related questions.

For the full text on the Academic Regulations and Instructions for Registration, see the Registrar’s Office web site at: http://www.brown.edu/about/administration/registrar/course-enrollment/registration (http://www.brown.edu/about/administration/registrar/course-enrollment/registration/)

For tutorials on registration, see: https://ithelp.brown.edu/kb/courses-brown-for-students (https://ithelp.brown.edu/kb/courses-brown-for-students/)

To access the most up-to-date course information including credit bearing summer session offerings ('The course information in the PDF versions of the University Bulletin and Course Announcement Bulletin is only updated just prior to registration events'), see:

'Courses@Brown (https://cab.brown.edu/)’ (https://cab.brown.edu/)

Course Credit

The semester course is the unit of credit. This is defined as a course taken for the duration of one semester and, for purposes of evaluation, may be considered the approximate equivalent of four semester hours.

Brown follows the Federal standard that defines a credit hour as an amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutional established equivalence that reasonably approximates not less than: (1) One hour of classroom or direct faculty instruction and a minimum of two hours of out of class student work each week for approximately fifteen weeks for each semester, or the equivalent amount of work over a different amount of time (i.e. Summer/Winter Sessions); or (2) At least an equivalent amount of work as required in paragraph (1) of this definition for other academic activities as established by the institution including laboratory work, internships, practica, studio work, and other academic work leading to the award of credit hours. Additionally, transfer credit must equate to the four semester hour standard except for three credit courses taken at the Rhode Island School of Design.

Course Numbering

Courses numbered 0001-0999 are strictly for Undergraduate credit (Graduate students may enroll in such courses with the permission of the instructor and the Graduate School.)

Courses numbered between 1000-1999 are for both Undergraduate and Graduate credit depending on the level of the student’s degree program.

Courses numbered between 2000-2999 are for Graduate credit (Undergraduate students may in enroll in such courses and may be applied towards their Undergraduate degree requirements by permission of the instructor.)

Courses numbered above 3000 are strictly for credit in the Alpert Medical School. Certain MD level courses may be taken for credit for Undergraduate students enrolled in the PLME program, but such courses do not count towards quantity, concentration, or Latin honors requirements for the Baccalaureate degree.

Maximum Course Load and Auditing

No student enrolled in The College or the Graduate School may enroll for more than five Brown credits in a semester. A degree candidate paying full tuition (4 or more enrollment units per semester) and is enrolled in less than five academic credits may be permitted to audit (see below section on auditing) additional course(s). At no time may a student be registered for more than 5 credits/courses including audits.

Enrollment Without Academic Credit

Auditing. An auditor is a student who is registered in a course without earning academic credit upon successful completion under the following conditions: (1) the student must be properly registered for it; (2) the student must pay the usual course fee except as indicated in the next paragraph; (3) the student is entitled to all instruction in the course, including conferences, the criticism of papers, tests, and examinations.

Any student registered on a full-time basis may be permitted to audit additional courses in any semester without charge. The total number of course registrations, including audits, may not exceed five credits. Non-degree or student paying less than four enrollment units of tuition may choose to audit if they so choose, but the student does so with the understanding that they will pay the equivalent rate as if registered for academic credit.

With the concurrence of the instructor, the fact that a course has been audited shall be entered on the permanent record of any student electing this privilege. The status of a course in which a student has registered may not be changed from audit to credit after the fourth week of classes or from credit to audit after midsemester.

Vagabonding. “Vagabond” is a student who, with the permission of the instructor involved, visits a given course occasionally or regularly without payment of fee. It is understood that such a student shall be entitled to participate in classes and activities, including discussions, conferences, and papers, only at the pleasure of the instructor.

Attendance, Grading, Examinations

Attendance

It is in the interest of every student to attend all sessions of the classes in which registered, and each student has an obligation to contribute to the academic performance of all by full participation in the work of each class; however, within such limits as are necessary for the general welfare, a student benefits also from exercising discretion and assuming responsibility for his or her educational progress.

Accordingly, unless the instructor imposes attendance requirements, students are not limited with respect to the number of absences from a course. When, in the instructor’s opinion, a student is abusing the privilege
of voluntary attendance, the appropriate dean’s office should be notified so that appropriate action may be taken. A student is always fully responsible for any course work missed because of absences and will be assigned failing grades in final examinations missed without excuse from the dean’s office. No student organization shall make any appointment for undergraduates which conflicts with college exercises unless permission has been obtained from the dean.

Grading System

At the end of each semester final grades are given in semester courses. In all courses, except those designated by the instructor as Mandatory Satisfactory/No Credit, a student may, in consultation with the advisor, elect to be graded on a basis of either Satisfactory/No Credit or A, B, C, No Credit. A student must for every course taken indicate by the end of the fourth week of the semester which basis for grading is elected. Any student regularly enrolled in a course, no matter whether for a course, the instructor should submit either an Mandatory Satisfactory/No Credit or for Satisfactory/No Credit, may request from the instructor a more detailed written evaluation of his or her work. (See Course Performance Report form.) Such supplemental evaluations are intended primarily for information of the student and do not replace departmental evaluations.

No Credit. This grade is given when courses are not satisfactorily completed. The notation No Credit, and the description of the course in which it is given, are not entered on the official academic transcript.

1. Courses may be designated to be graded on a Mandatory Satisfactory/No Credit basis for all students enrolled on the initiative of the instructor. The designation of a course by an instructor to be graded S/NC only must be announced no later than the first day of classes and entails the responsibility for providing Course Performance Report forms to all students who request them. An asterisk shall accompany the listing on the transcript of any course that has been designated by the instructor to be graded on the basis of S/NC only, with an appropriate explanation of the symbol provided.

2. In exceptional circumstances, a course may be left incomplete (except for a regularly scheduled final examination—see paragraph 3 below), with the instructor’s consent. In such cases, a grade of INC will be assigned provided that the student has filed a request for extension of time to complete the work of the course and the instructor has consented to such a request. Unless an earlier date is specified by the instructor, grades of INC must be made up as follows: for Semester I, by midterm of Semester II; for Semester II or the for-credit 7 week Summer Session, by the first day of Fall semester. Extensions beyond semester in which course left incomplete was taken may be granted by the instructor who will indicate this in writing to the registrar. A course not completed by the designated time will be assigned a grade of NC unless the instructor indicates that sufficient work has been completed to justify course credit by submitting, as appropriate, a grade change from INC to A, B, C, or S. A grade of NC assigned in accordance with these procedures may be changed subsequently, but no later than one calendar year after the end of the semester in which the course was taken.

3. If a student is absent from a regularly scheduled final examination for a course, the instructor should submit either an INC or an NC. If the absence from the examination is excused by the dean, the student will be permitted to take a Special Examination and the original grade will be made into an ABS temporarily. The Special Examination will be administered by the Office of the Registrar in accordance with the provisions in the Faculty Rules for such examinations, unless other arrangements are agreed to by the instructor and the student, and communicated to the registrar. If the absence from the final examination is not excused by the dean, the student will receive no credit for the course.

Year Courses: A year course is one in which both halves must be passed in order to get credit for the entire year. The grade at the end of the first semester is normally a temporary one. Neither semester may be elected independently without special permission. The final grade submitted at the end of the course covers the work of the entire year and is recorded as the final grade for both semesters. It is normally expected that the second half of a year course will be completed in the second semester of the same academic year in which the first half was taken. If the second half of the course is not completed at the end of that academic year, the grade for the first semester will become a No Credit. If the student completes the second part of the year course during a later academic year, he or she may need to notify the Registrar’s Office, in order to reactivate the first part of the course.

In registering for the second half of a year course, students must register for credit if the first half was taken for credit. Similarly, if registered for audit in the first half, the second half of the course registration must also be as an audit. Exceptions must be approved by both the academic department and the Committee on Academic Standing.

Repeating Courses: Unless a course is explicitly approved by either the College Curriculum Council or Graduate Council as being able to be repeated for credit, Once course credit has been earned with an initial passing grade A, B, C, or Satisfactory (S) or through Transfer Credit it cannot be officially registered for again for in an effort to improve one’s initial grade.

Grade Requirements for Advanced Degrees: A minimum grade of either Satisfactory or C in a 1000 or 2000 level course carries credit toward all advanced degrees. Individual departments may, subject to the approval of the Graduate Council, set higher grade requirements.

Advanced degree candidates may be required to register in courses primarily for undergraduates (numbered 1–999); these courses do not carry advanced degree credit. On occasion, however, and with approval of the student’s department and the dean, a student may register for such a course with extra work for advanced degree credit. This course then has the same standing as a 1000-level course and an EX is noted on the transcript. This provision for extra work does not apply to courses of the level of 1–999 taken for graduate credit by students in MD program.

Course Performance Reports: Any undergraduate student regularly enrolled in a course, no matter whether for A, B, C/No Credit or for Satisfactory/No Credit, may request from the instructor a more detailed written evaluation of the student’s work by way of a Course Performance Report (Note: This form is available online for currently enrolled undergraduates via Advising SideKick (ASK)). Course performance reports provide valuable information to students about their success in meeting course learning objectives, especially for courses graded S/NC. The instructor may decline to submit such a form if they felt they have inadequate information to do so. The deadline for requesting a Course Performance Report is the day before the final exam period begins in the semester of enrollment in the course (Refer to Academic Calendar for precise deadlines). Late Course Performance Reports may be requested after the deadline and before a student graduates, but the instructor is not obligated to complete a late report. Students may not request a Course Performance Report after completing their degree requirements (although they may contact an instructor directly for a letter of recommendation or a reference at any time). Copies of Course Performance Reports are not available to: (1) the student, (2) the dean’s office, and (3) the student’s concentration advisor. While not part of the official record, Course Performance Reports may be sent out from the University at the student’s request as part of an official transcript request as long as the student provides such copies to the Office of the Registrar when making the initial transcript request.

Transcripts: Requests for transcripts must be made electronically. For further information please visit the Office of the Registrar’s website (http://www.brown.edu/about/administration/registrar/academic-transcript-requests/). Transcripts will be issued only if all financial obligations to the University have been met.

An official transcript consists of a copy of the permanent record listing courses passed and grades received. A statement is added to all transcripts explaining the grading system and indicating that the student may elect to include other material with the official transcript. The student should choose this material in consultation with his or her advisor. The University will mail this material in one envelope along with the official transcript.
Examinations

A final, written examination (at the end of each semester) shall be given in each course numbered under 2000 unless the instructor of a particular course decides to use some other mode of final evaluation. If the written examination is not to be used, the mode of final examination which is to be used shall be made known to the students in the course no later than midterm and, in addition, the department and the registrar shall be informed.

Final Examination Schedule: A pre-defined period at the close of each semester is provided for final examinations for those courses for which such an examination is scheduled. Two examination periods are scheduled for each day. The examination group is determined by, in most cases, the offering time associated with the course (indicated by the figure in parentheses) and also as displayed on Banner Web. The schedule for 2023-2024 is as follows:

<table>
<thead>
<tr>
<th>Semester I, 2023-2024</th>
<th>Date</th>
<th>9 am Group</th>
<th>2 pm Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dec. 13 W</td>
<td>4</td>
<td>13</td>
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</tr>
<tr>
<td>Dec. 14 Th</td>
<td>14</td>
<td>11</td>
<td></td>
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<tr>
<td>Dec. 15 F</td>
<td>16</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>Dec. 16 Sat</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Dec. 17 Su</td>
<td>17</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Dec. 18 M</td>
<td>15</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Dec. 19 T</td>
<td>5</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Dec. 20 W</td>
<td>6</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Dec. 21 Th</td>
<td>9</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

Semester II, 2023-2024

<table>
<thead>
<tr>
<th>Date</th>
<th>9 am Group</th>
<th>2 pm Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 8 W</td>
<td>10</td>
<td>13</td>
</tr>
<tr>
<td>May 9 Th</td>
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<td>17</td>
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<tr>
<td>May 10 F</td>
<td>8</td>
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<tr>
<td>May 11 Sat</td>
<td>3</td>
<td>16</td>
</tr>
<tr>
<td>May 13 M</td>
<td>15</td>
<td>2</td>
</tr>
<tr>
<td>May 14 T</td>
<td>12</td>
<td>9</td>
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<tr>
<td>May 15 W</td>
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<td>5</td>
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<tr>
<td>May 16 Th</td>
<td>1</td>
<td>18</td>
</tr>
<tr>
<td>May 17 F</td>
<td>11</td>
<td>7</td>
</tr>
</tbody>
</table>

Exam Excuses: The Office of the Dean of the College is solely responsible for determining whether a student’s absence from a final examination is excused. To ensure equitable treatment of all students, students are excused from exams only for family or medical emergencies. Please note that students’ travel plans are never an excuse for missing a final exam. Faculty wishing to grant a student an exam excuse may contact the appropriate academic dean authorized to grant exam excuses. In emergency situations, students who are unable to contact their professors must contact the Office of the Dean of the College, which will determine whether or not an exam excuse is warranted. Course instructors are notified of exam excuses granted by the Dean of the College Office.

Consistent with Brown’s policy on nondiscrimination, students who are unable to take a final examination due to religious observance may arrange to take their final at an alternate time. Students who cannot take a final exam on the scheduled date due to a religious observance must inform the instructors of any conflicts within the first four weeks of the term. In such cases, instructors are expected to offer a final exam on an alternate date within the same semester, noting the policy in the Faculty Rules that final examinations may be given only during the final examinations period. For further information on exams and religious observance please visit https://www.brown.edu/academics/college/support/faculty/religiousobservance (https://www.brown.edu/academics/college/support/faculty/religiousobservance/).

Make-up exams for approved exam excuses for medical or family emergencies are administered by the Registrar in the second week of the subsequent fall or spring term. The Registrar’s Office informs students by email of the date, time, and location of make-up exams.

Placement and Achievement Tests in Foreign Languages. Placement tests in the foreign languages are given during Orientation Program in the fall and during the first week of classes in each semester.

All students, before taking college courses in a foreign language in which they have presented entrance credit, must take either a placement test at Brown University or, preferably, a College Board Language Achievement Test in secondary school. Students with outstanding performance on these tests, or on the Advanced Placement Tests of the College Entrance Examination Board, may be admitted to advanced courses without the usual course prerequisites.

Student Code of Conduct

Academic Code Violations

All cases of academic dishonesty among undergraduates, graduate, or medical students, as defined in the Academic Code at Brown University, shall be referred to the dean of the College, Graduate School, or Medical School, or his or her designated representative. A student accused of such an offense shall be notified in writing as soon as possible of the specific charge or charges against him or her before his or her case is considered. The student shall be given the opportunity of a hearing before the designated representative of the dean of the College, Graduate School, or Medical School, and two members of the faculty, at which all relevant facts may be presented. A student shall have the right to appeal any decision to the dean of the College, Graduate School, or Medical School within five business days after receipt of the official letter outlining the case and the decision reached.

Code of Student Conduct

Brown strives to sustain a learning environment that supports individual exploration. Central to this effort are the four primary Principles of the Brown University Community: individual integrity, respect for others, respect for University resources, and respect for the values of teaching, learning and scholarship. Our community believes that adherence to these principles supports the overall academic mission of the University. Violations of these principles will be handled through the procedures governing the Academic Code and the Code of Student Conduct. These procedures are designed to address behaviors that impede the educational activity of the University or that infringe upon the rights of others.

Student Conduct cases are administered by the Office of Student Conduct & Community Standards.

Specific hearing procedures can be found online at www.brown.edu/randr (http://www.brown.edu/randr/).

Curricular Programs

Collaborative Research and Scholarly Experiences

Collaborative Research and Scholarly Experiences (COEX) engage groups of students in addressing a research question or knowledge gap of interest to scholarly communities. Typically, a COEX course would engage students in:

1. Research practices authentic to the discipline (e.g., by asking questions, using the tools of the discipline for gathering and analyzing data, developing and critiquing interpretations and arguments).
2. Discovery, or exploration of ill-structured questions where the outcome is not known to the students nor the instructor, and there is the potential for generating new knowledge or insights.
3. Creating work that has potential impact beyond the classroom (e.g., through reports for an outside organization, authorship or acknowledgement in a potential publication, blogs or podcasts distributed beyond the classroom).
4. Collaboration, such as group work, giving and receiving peer feedback, pooling data, and sharing interpretations.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
5. Iteration, or processes of revision, learning from failure, and acknowledging and building on other students’ work.

A complete list of each semester’s COEX courses may be viewed in Courses@Brown by choosing “Collaborative Research and Scholarly Experiences” in the Curricular Programs field.

Community-Based Learning and Research

Community-Based Learning and Research (CBLR) courses connect academic inquiry with real-world learning experiences, enabling students to integrate and transfer their learning to contexts beyond the classroom. CBLR-designated courses: (i) Involve collaboration with one or more community partners to investigate an important social challenge or problem; (ii) Incorporate in-depth community-based experiences (typically undertaken outside of the classroom) into the learning and/or research objectives of the course; (iii) Provide structured opportunities for reflecting on the relationship between classroom learning and real-world experience, with the goals of deepening the understanding of course content and exploring questions of identity, agency, and social responsibility; and (iv) Create products or outcomes that are shared with the community partner and/or broader public.

A complete list of each semester’s CBLR courses may be viewed in Courses@Brown by choosing “Community-Based Learning and Research” in the Curricular Programs field.

First Year Seminars

First-year seminars ensure close contact between first-year students and faculty members while simultaneously offering a rigorous introduction to the concepts and methods of a particular subject area or department. Seminars have few if any prerequisites and are offered in all areas of the curriculum, from anthropology to physics to literary arts. Students receive regular feedback on the work they produce for the seminars, and seminar faculty often serve as informal mentors for their students long after the class has ended.

A complete list of each semester’s seminars may be viewed in Courses@Brown by choosing “First-Year Seminar” in the Curricular Programs field. Registration for first-year seminars takes place during the summer prior to students’ matriculation to Brown. Depending on availability, first-year students may also add seminars to their course schedules during pre-registration and shopping periods.

Race, Power, and Privilege Courses

In their content and their objectives, Race, Power, and Privilege (RPP) courses examine issues of structural inequality, racial formations, and/or disparities, and systems of power within a complex, pluralistic world.

RPP courses may investigate:

1. The ways different forms of power and privilege construct racial and identity formations in the U.S. and/or globally; the cultural, political, and intellectual responses to this racialization;
2. How categories of race and ethnicity are produced intersectionally in relation to other hierarchical structures of difference including gender, sexual orientation, class, religion, ability, citizenship status, and geography;
3. The structures, institutions, practices, and attitudes that enable, maintain, or mitigate domestic and/or global disparities in health, income, education outcomes, media representations, etc.;
4. The ways in which disciplinary structures of knowledge have been embedded in such historical formations as racism and colonialism.

Sophomore Seminars

Sophomore seminars bring together ideas, perspectives, and approaches that are not normally seen side by side in a given course or program. Embracing a range of intellectual perspectives, many of the seminars focus specifically on issues of social justice, identity, and difference. Limited to twenty students each, the seminars help students develop the skills, knowledge, and values they need to progress toward more advanced learning in a discipline or field.

A complete list of each semester’s SOPH seminars may be viewed in Courses@Brown by choosing “Sophomore Seminar” in the Curricular Programs field.

Writing-Designated Courses

Brown students are expected to work on writing in their general studies and in the concentration. Students may begin to fulfill this expectation by taking at least one course that carries the WRIT designation. WRIT courses are offered across the curriculum and help students develop the ability to write well in styles appropriate to different academic disciplines.

A complete list of each semester’s WRIT courses may be viewed in Courses@Brown by choosing “Writing-Designated Courses” in the Curricular Programs field.

Collaborative Research and Scholarly Experiences

Fall 2023

Biology

BIOL 0190S S01 16393 Heritage in the Metropolis Lauren E Yapp

BIOL 0190R S01 16191 Phage Hunters, Part I Sarah E. Taylor

Chemistry

CHEM 0600 S01 25301 Inorganic Chemistry TBD

CHEM 0600 S02 25303 Preparatory Chemistry Lab TBD

Education

EDUC 1190 S01 17017 Family Engagement in Education Yoko Yamamoto

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Instructor(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC 1665 S01 18472</td>
<td>Reimagining the Humanities</td>
<td>Laura A. Snyder</td>
</tr>
<tr>
<td>ENVS 0110 S01 18346</td>
<td>Humans, Nature and the Environment</td>
<td>Dawn King</td>
</tr>
<tr>
<td>ETHN 1000 S01 16274</td>
<td>Intro to Ameron/Ethnic Studies</td>
<td>Kevin A. Escudero</td>
</tr>
<tr>
<td>HISP 0710E S01 17884</td>
<td>Intro:Translation &amp; Interpret</td>
<td>Nadia A. Schuhmacher</td>
</tr>
<tr>
<td>PHP 1300 S01 18044</td>
<td>Parenting Bx and Child Health</td>
<td>Tayla von Ash</td>
</tr>
<tr>
<td>PHP 1821 S01 18051</td>
<td>Incarceration, Disparities, Heal</td>
<td>Bradley W. Brockmann</td>
</tr>
<tr>
<td>SOC 1120 S01 17390</td>
<td>Market and Social Surveys</td>
<td>Carrie E. Spearin</td>
</tr>
<tr>
<td>URBN 1871A S01 16393</td>
<td>Heritage in the Metropolis</td>
<td>Lauren E Yapp</td>
</tr>
<tr>
<td>ANTH 1301 S01 25352</td>
<td>Anthropology of Homelessness</td>
<td>Irene Glasser</td>
</tr>
<tr>
<td>EDUC 0540 S01 25444</td>
<td>Language and Education Policy</td>
<td>Pierre De Galbert</td>
</tr>
<tr>
<td>EDUC 1615 S01 25454</td>
<td>Com Based Part. Research in Ed</td>
<td>Crystal Thomas</td>
</tr>
<tr>
<td>EDUC 1655 S01 25455</td>
<td>Human Dev &amp; Education in East</td>
<td>Yoko Yamamoto</td>
</tr>
<tr>
<td>ENVS 1421 S01 25720</td>
<td>Podcasting For the Common Good</td>
<td>Megan Hall</td>
</tr>
<tr>
<td>AMST 0150K S01 16273</td>
<td>Culture, Communities, Change</td>
<td>Susan Smulyan</td>
</tr>
<tr>
<td>ARCH 0270 S01 18509</td>
<td>Troy: Archaeology of an Epic</td>
<td>TBD</td>
</tr>
<tr>
<td>BIOL 0190S S01 16283</td>
<td>Darwinian Medicine</td>
<td>Marc Tatar</td>
</tr>
<tr>
<td>BIOL 0190P S01 16218</td>
<td>Pride/Prej Dev of Sci Theories</td>
<td>Stephen L. Helfand</td>
</tr>
<tr>
<td>BIOL 0190R S01 16191</td>
<td>Phage Hunters, Part I</td>
<td>Sarah E. Taylor</td>
</tr>
<tr>
<td>COLT 0510C S01 17706</td>
<td>The World of Lyric Poetry</td>
<td>Dore J. Levy</td>
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<td>EAST 0140 S02 16991</td>
<td>Childhood and Culture in Japan</td>
<td>Samuel E. Perry</td>
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<td>ENVS 0070C S01 17360</td>
<td>Transcending Transpn Impacts</td>
<td>Kurt Teichert</td>
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<td>FREN 0720I S01 17955</td>
<td>J'accuse!</td>
<td>Thangam Ravindranathan</td>
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<td>HISP 0710B S01 17886</td>
<td>Hisp Culture Through Cinema</td>
<td>Mercedes Vaquero</td>
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<td>Believers, Agnostics, Atheists</td>
<td>David C. Jacobson</td>
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<td>Hope, Despair, Longing JewishTh</td>
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<td>LANG 0750 S01 17104</td>
<td>Languages Contemporary Africa</td>
<td>Victor Temitope Alabi</td>
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<td>Introduction to Fiction</td>
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<td>Stephen Sondheim and the American</td>
<td>Dana A. Gooley</td>
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<td>Contemporary Ethical Issues</td>
<td>Anna S. Bjurman Pautz</td>
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<td>POLS 0820L S01 16403</td>
<td>Phil of the American Founding</td>
<td>Wendy J. Schiller</td>
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<td>POLS 0820Y S01 16404</td>
<td>Race-Crimnl Justice</td>
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<td>POBS 0810 S01 17819</td>
<td>Cross-Cultural Identities</td>
<td>Patricia I. Sobral</td>
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<td>PHP 0060 S01 18006</td>
<td>First-Yr Seminar Global Health</td>
<td>Nisha Trivedi</td>
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<td>RELS 0090A S01 16764</td>
<td>Women and Gender in Anc. Rel.</td>
<td>Susan Ashbrook Harvey</td>
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<td>RELS 0090B S01 17952</td>
<td>Indigenous Ecologies</td>
<td>Mark Cladis</td>
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<td>RELS 0090M S01 17724</td>
<td>Religion Violence and Media</td>
<td>Nancy Khalek</td>
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<td>RUSS 0320A S01 17833</td>
<td>Brothers Karamazov/Art of Novl</td>
<td>Svetlana Evdokimova</td>
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<td>SOC 0300 S01 17388</td>
<td>Race, Immigration &amp; Inequality</td>
<td>Laura Lopez Sanders</td>
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<td>SOC 0300K S01 17384</td>
<td>Inequalities and Health</td>
<td>Susan Short</td>
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<td>URBN 0230 S01 16392</td>
<td>Urban Life in Providence</td>
<td>Rebecca Louise Carter</td>
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<td>ENGL 0150U S01 25042</td>
<td>The Terrible Century</td>
<td>Timothy R T Bewes</td>
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<td>ENGL 0150X S01 25131</td>
<td>The Claims of Fiction</td>
<td>Olakunle George</td>
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<tr>
<td>ENGL 0151C S01 25103</td>
<td>Midsummers</td>
<td>Connie Scozzaro</td>
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For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
History
HIST 0522O S01 25693 What is Enlightenment? Neil F. Safier

Literary Arts
LITR 0100A S01 25995 Introduction to Fiction TBD
LITR 0100B S01 25951 Introduction to Poetry TBD
LITR 0710 S01 25125 Writers on Writing Seminar Laird B Hunt

Political Science
POL S01 25056 Crime, Mafia and Prison David B Skarbek

Russian
RUSS 0320E S01 26168 Crime and Punishment Vladimir Golstein

Sociology
SOC 0300D S01 25740 Who Am I? Gregory C. Elliott
SOC 0300I S01 25741 From Macro to Micro: Experiencing Prudence Carter

Race, Power, and Privilege
Fall 2023
Africana Studies
AFRI 0090 S01 17896 An Intro to Africana Studies Francoise N. Hamlin
AFRI 0670 S01 17902 Global Black Radicalism Brian W E Meeks
AFRI 0800 S01 17901 Theorizing Race and Resistance Ainsley LeSure
AFRI 1080D S01 17888 The Harlem Renaissance Renee Afer
AFRI 1112 S01 17890 Contemporary Black Theatre Lisa L Biggs
AFRI 1510 S01 17891 Making and Remaking Blackness Kim Gallon

American Studies
AMST 1600C S01 16266 Anti-Trafficking Savior Complex Elena Shih
AMST 1611S S01 16267 US Popular Culture Richard Baldoz
AMST 1700X S01 16270 Global Macho: Action Movies Matthew Gutler
AMST 1906X S01 16319 Black Queer Life Kiana Murphy

Anthropology
ANTH 0100 S01 16878 Intro to Cultural Anthropology Myles Lennon
ANTH 0350 S01 16885 Suffering and Compassion Michael Berman
ANTH 0800 S01 18340 Intro to Linguistic Anthro Joshua Babcock
ANTH 1030 S01 16902 Pre-Columbian Art and Architecture Stephen D. Houston
ANTH 1125 S01 16906 Indigenous Archaeologies Robert Preucel
ANTH 1622 S01 16900 Archaeology of Settler Colonial Patricia E. Rubertone

Applied Mathematics
APMA 1910 S01 17854 Race & Gender in the Sciences Kristina Marie Mallory

Classics
CLAS 0765 S01 18754 Witches and Witches Samantha-Mae Eccleston

Contemplative Studies
COST 0560 S01 16774 Contemplation & Social Action Srinivas S Reddy

Earth, Environmental, and Planetary Science
ENVS 1615 S01 18356 Environmental Policy Process Amanda Lynch

Economics
ECON 1520 S01 17239 Culture, History and Comparative Stelios Michalopoulos
ECON 1385 S01 18318 Intergenerational Poverty in Post-Amerkia Aizer
ECON 1390 S01 17233 Inequality of Income, Wealth, David N. Weil
ECON 1520 S01 17239 Urban Schools in Hist Persp Tracy L. Steffes
ECON 1680 S01 18472 Reimagining the Humanities Laura A. Snyder
ECON 1670 S01 17024 Youth Civic Engagement Andrea Flores

Education
EDUC 0300 S01 16995 Introduction to Education Mahasen Chaney
EDUC 0515 S01 17013 Teaching LGBTQIA History John Paella
EDUC 0815 S01 17016 The Craft of Teaching Indira Gil
EDUC 1620 S01 17021 Urban Schools in Hist Persp Tracy L. Steffes
EDUC 1665 S01 18472 Reimagining the Humanities Laura A. Snyder
EDUC 1670 S01 17024 Youth Civic Engagement Andrea Flores

English
ENGL 0710X S01 16317 Black Poetics Kevin E Quashie
ENGL 1140D S01 16337 Writing Diversity Austin Jackson
ENGL 1710Q S01 16322 Bloomsbury and Modernism Paul B. Armstrong
ENGL 1760Y S01 16318 Toni Morrison Kevin E Quashie

Environmental Studies
ENVS 1615 S01 18356 Environmental Policy Process Amanda Lynch
ENVS 1900 S01 18646 Elements Bathsheba R Demuth

Ethnic Studies
ETHN 1000 S01 16274 Intro to Amer/ethnic Studies Kevin A. Escudero
ETHN 1200K S01 16954 Intro to Amer Indian Studies Adrienne J. Keene
ETHN 1612E S01 17844 Black Activist Experiments Kiana Murphy
ETHN 1750D S01 16267 Transpacific Asian American St Evelyn Hu-Dehart

Gender and Sexuality Studies
GNSS 0630 S01 18083 Is This Working? Denise L. Davis

Hispanic Studies
HISP 0550 S01 17876 Intermediate Spanish: Heritage Eva M. Gomez Garcia
HISP 0730 S01 17943 Latin Am in Its Lit + Culture Iris Montero
HISP 1371F S01 18687 Narrating the Borderlands TBD

History
HIST 0150J S01 17030 The Ocean in Global History Gabriel Rocha
HIST 0552A S01 17049 Textile Hist of Atlantic Slavery Seth E. Rockman
HIST 0556C S01 17048 Latinx Social Movement History Mark A Ocegueda
HIST 0577B S01 17056 US-Mexico Border/Bilingual Evelyn Hu-Dehart
HIST 1121 S01 17034 The Modern Chinese Nation Rebecca A. Nedostup
HIST 1620 S01 17046 Gandhi Making Modern South Asia Vazira F-Y Zamindar

International and Public Affair
IAPA 1801 S01 17752 Science, Tech Policy Geri M. Augusto

Italian Studies
ITAL 1262 S01 17069 WomenGenderFeminism Caroline Castiglione

Judaic Studies
JUDS 0050K S01 17106 Hope, Despair, Longing Jewish Th Paul E. Nahme
JUDS 1614 S01 16457 Politi.Theology*Jewish Question Paul E. Nahme

Language Studies
LANG 0150S S01 17673 Swahili I Jane Sokolosky

Latin American & Caribbean Stu
LACA 15040 S01 18719 Latin American Geographies TBD

Modern Culture and Media
MCM 1501O S01 18225 Television, Gender + Sexuality Lynne Joyrich

Music
MUSC 0642 S01 16579 World Music Ensemble Martin K. Obeng

Political Science
POL S01 16404 Race-Crimnl Justice Paul F Testa

Portuguese and Brazilian Studies
POBS 0630D S01 18647 Resp to Coloniality Luso World TBD

Program in Liberal Med. Educ.
PLME 1000 S01 17211 PLME Senior Seminar TBD

Public Health
PHP 1070 S01 18028 Global Burden of Disease Abigail D. Harrison
PHP 1100 S01 18007 Comparative Health Care Systems Cara J Sammartino
PHP 1680 S01 18030 Disability/Health and Community Sarah E. Skeels
PHP 1920 S01 18032 Social Determinants of Health Diana Grigsby

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Religious Studies
RELS 0090M S01 17724 Religion Violence and Media Nancy Khalek
RELS 0145 S01 18496 Karma, Rebirth and Liberation Finnian M. Moore-Gerety
RELS 0560 S01 16773 Contemplation & Social Action Srinivas S Reddy
RELS 1440A S01 16780 Japanese Buddhism Janine T Anderson Sawada

Science, Technology, and Society
STS 1700T S01 16706 Race, Gender, and Technology Yan Chaoko

Sociology
SOC 0010 S01 17368 Introductory to Sociology Lisa DiCarlo
SOC 0030 S01 17388 Race, Immigration & Inequality Laura Lopez Sanders
SOC 0315 S01 17387 International Migration Lisa DiCarlo
SOC 1115 S01 17389 Criminal Courts and the Law Nicole Gonzalez Van Cleve
SOC 1872E S01 18649 Global Sociology Jose Itzigsohn
SOC 1872G S01 17396 First-Generation College Study Gregorio C. Elliott
SOC 1872O S01 17397 Critical Race Theory Rosalind S Chou
SOC 1873D S01 17712 Inequality of Infant Health Emily Rauscher

Theatre Arts and Performance Studies
TAPS 1281G S01 17554 Queer Dance J Delucacave

Urban Studies
URBN 0210 S01 17527 The City: Intro to Urban Study Lauren E Yapp
URBN 1871A S01 16393 Heritage in the Metropolis Lauren E Yapp

Spring 2024

Africana Studies
AFRI 0880 S01 26178 Hip Hop Music and Cultures Tricia Rose
AFRI 1090 S01 26175 Bick Freedon Struggle Since 1945 Francoise N. Hamlin
AFRI 1360 S01 26176 Knowledge, Texts + Methodology Brian W E Meeks

American Studies
AMST 1700P S01 25248 Making Music American Kiri M. Miller

Anthropology
ANTH 0300 S01 25329 Culture and Health TBD
ANTH 1940 S01 25865 Ethnographic Research Methods Lina M. Fruzzetti

Comparative Literature
COLT 1815U S01 26057 Monsters in Literature Hannah Silverblank

Economics
ECON 1310 S01 25684 Labor Economics Kenneth Chay

Education
EDUC 0540 S01 25444 Language and Education Policy Pierre De Galbert
EDUC 0620 S01 25452 Cradle of Inequality David E Rangel
EDUC 1680 S01 25459 Race and Educ in American Hist John Palella

English
ENGL 0100N S01 25095 City Novels Tamar Katz
ENGL 0700U S01 25039 Modernism and Race Paul B. Armstrong
ENGL 0710V S01 25028 Death and Dying in Black Lit Kevin E Quashie
ENGL 1030H S01 25049 Writing Black Popular Culture Austin Jackson
ENGL 1710I S01 25054 Harlem Renaissance Roland D. Murray
ENGL 1711O S01 25055 Literature and the Left Rolland D. Murray

Ethnic Studies
ETHN 1200B S01 25393 Cont Indigenous Education Adrienne J. Keene
ETHN 1200C S01 25253 Introduction to Asian American Kevin A. Escudero
ETHN 1200H S01 25250 Intro to Asian American Hist Shelley Lee
ETHN 1750L S01 25245 Latina Feminisms Leticia Alvarado

History of Art and Architecture
HIAA 0077 S01 26321 Revolutions, Illusions, Impres Holly M Shaffer
HIAA 1626 S01 26462 Settler-Colonial Placemaking Eric Johnson

History
HIST 0234 S01 25582 Modern Latin America Daniel A. Rodriguez
HIST 0255A S01 25633 Mexican American History Mark A Oceguera
HIST 0654A S01 25659 Welfare States Robert O. Self
HIST 1080 S01 25638 Humanitarianism in Africa Jennifer E. Johnson
HIST 1457 S01 25632 History of the Palestinians Beshara B. Doumani
HIST 1512 S01 25585 First Nations to 1800 Linford D. Fisher
HIST 1554 S01 25622 American Empire Since 1890 Naoko Shibasawa
HIST 1830M S01 25631 Medieval Bedlam-Prozac Nation Jennifer L. Lambe
HIST 1967L S01 25690 Life in Brit Ul Drm Miltry Rie James N. Green
HIST 1969A S01 25681 Israel-Palestine: LandsPeople Omer Bartov
HIST 1972J S01 25694 RacialCapitalism US LiberiaEmp Naoko Shibasawa
HIST 1974M S01 25684 Early Modern Globalization Adam J Teller
HIST 1977I S01 25688 Gen, Race, Med in Americas Daniel A. Rodriguez

International and Public Affairs
IAPA 1402 S01 26487 Contemporary Caribbean Patcy P. Lewis
IAPA 1801 S01 26473 Science, Tech Policy Geri M. Augusto

Judaic Studies
JUDE 0902 S01 25118 History of the Holocaust Amad J Teller

Korean
KREA 1090 S01 25847 Transliterating Korean Samuel E. Perry

Music
MUSC 0033 S01 25185 From the Blues to Beyoncé Eric T. Nathan

Political Science
POLS 1455 S01 25094 Crime, Punishment, and Poltic David B Skarbek
POLS 1821V S01 25074 Democracy and Inequality in Am Richard O. Snyder

Religious Studies
RELS 0056 S01 26073 Spiritual But Not Religious Daniel Vaca
RELS 0065B S01 26074 Blues People:Topics in African Andre C. Willis
RELS 0821 S01 26082 Black Religion and Media Kera Street
RELS 1380A S01 26084 Money, Media, and Religion Daniel Vaca

Science, Technology, and Society
STS 0702 S01 25269 Invisible Labor Yan Chaoko

Sociology
SOC 0010 S01 25726 Introductory to Sociology Nicole Gonzalez Van Cleve
SOC 0300I S01 25741 From Macro to Micro: Experienc Prudence Carter
SOC 1155 S01 25762 Borderlands Lisa DiCarlo
SOC 1490 S01 26400 Power, Knowledge and Justice Michael D. Kennedy

Theatre Arts and Performance Studies
TAPS 1281O S01 25909 Native Amer Indigenous Theatre Sarah dAngelo
TAPS 1281Q S01 25916 Acting Outside the Box Kym Moore

Sophomore Seminars

Fall 2023

Africana Studies
AFRI 0670 S01 17902 Global Black Radicalism Brian W E Meeks

Biology
BIOL 0940A S01 16221 Viral Epidemics Walter J. Atwood
BIOL 0940D S01 17392 Rhode Island Flora:Local Plant Rebecca Y Kartzinel

Gender and Sexuality Studies
GNSS 0630 S01 18083 Is This Working? Denise L. Davis

Hispanic Studies
HIST 0623C S01 17636 Americans in the USSR Ethan M Pollock
HIST 0682E S01 18224 Animal Histories TBD

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Music
MUSC 0033 S01 25185 From the Blues to Beyoncé Eric T. Nathan

Neuroscience
NEUR 1540 S01 26006 Learning and Memory Monica Linden
NEUR 1600 S01 26014 Experimental Neurobiology John J. Stein

Philosophy
PHIL 0010 S01 25137 The Place of Persons David P. Christensen
PHIL 0430 S01 25321 Ethical Themes of Culture Amer Short Story Felicia Nimue Ackerman
PHIL 1470 S01 26371 Ethics in the Novel Felicia Nimue Ackerman
PHIL 1775 S01 25237 Philosophy of Quantum Mechanics Elizabeth Miller

Physics
PHYS 0560 S01 25783 Experiments in Modern Physics TBD
PHYS 1560 S01 25802 Modern Physics Laboratory TBD
PHYS 1600 S01 25804 Computational Physics TBD

Political Science
POLS 1821V S01 25074 Democracy and Inequality in America Richard O. Snyder
POLS 1822U S01 25076 War and Human Rights Nina Tannenwald
POLS 1823I S01 25077 Urban Politics and Policy Katherine Tate
POLS 1823Z S01 25260 Gender and Public Policy Susan L. Moffitt

Portuguese and Brazilian Studies
POBS 0105 S01 26111 Accelerated Portuguese Patricia I. Sobral
POBS 0400 S01 26115 Writing + Speaking Portuguese TBD

Religious Studies
RELS 0056 S01 26073 Spiritual But Not Religious Daniel Vaca
RELS 0340 S01 26077 Kabbalah Nathaniel A. Berman
RELS 0821 S01 26082 Black Religion and Media Katherine Tate
RELS 1380A S01 26084 Money, Media, and Religion Daniel Vaca

Russian
RUSS 0320E S01 26168 Crime and Punishment Vladimir Golstein
RUSS 1330 S01 26169 Soviet Culture Fabrizio Fenghi
RUSS 1340 S01 26172 The Russian Novel Michal Oklot
RUSS 1810 S01 26170 Tolstoy Svetlana Evdokimova
RUSS 1848 S01 26170 Central European Literature Michal Oklot

Science, Technology, and Society
STS 0702 S01 25269 Invisible Labor Xan Chacko
STS 1000 S01 25257 Theories and Controversies TBD

Sociology
SOC 0300D S01 25740 Who Am I? Gregory C. Elliott
SOC 1020 S01 25819 Methods of Social Research Carrie E. Spearin
SOC 1315 S01 25734 Macro-Organizational Theory Josh Pacewicz
SOC 1871D S01 25763 Sociology of Development Jose Itzigsohn
SOC 1950 S01 25735 Senior Seminar Carrie E. Spearin

Theatre Arts and Performance Studies
TAPS 0100 S01 25924 Playwriting I TBD
TAPS 0200 S01 25913 Playwriting II TBD
TAPS 1240 S01 25919 Perform Histroriography/Theat Hst Leon J.A. Hilton
TAPS 1250 S01 25922 Late Modern & Contemporary Theatre Ivan Ramos
TAPS 1500H S01 25925 Advanced Playwriting Deborah Smith

University Courses
UNIV 0400 S01 25519 Literature of C.S. Lewis Timothy P. Flanigan
UNIV 0400 S02 25523 Literature of C.S. Lewis Timothy P. Flanigan
UNIV 0400 S03 25524 Literature of C.S. Lewis Timothy P. Flanigan

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Course Descriptions

Africana Studies

AFRI 0090. An Introduction to Africana Studies. This course introduces students to the vibrant and contested field of Africana Studies by critically exploring and analyzing the links and disjunctions in the cultural, political, and intellectual practices and experiences of people of African descent throughout the African diaspora. Beginning with a critical overview of the history, theoretical orientations, and multiple methodological strategies of the discipline, the course is divided into three thematic units that examine intellectuals, politics, and movements; identity construction and formation; and literary, cultural, and aesthetic theories and practices in the African diaspora.

AFRI 0670. Global Black Radicalism. The decade from the mid-Sixties until the mid-Seventies witnessed the rise of Black Radicalism as a global phenomenon. The emergence of Black Power in the US, Brazil and the Caribbean, the consolidation of liberation struggles in Portuguese Africa and the rise of a Black Consciousness trend in Apartheid South Africa all represent key moments. What led young activists to embrace “Black Power?” What led to the emergence of Marxist movements in Portuguese Africa? What events in the Caribbean gave ascendency to radical tendencies? And what forces contributed to the decline of these movements? This course seeks to answer these questions.

AFRI 0800. Theorizing Racism. Why does racism persist in the twenty-first century? How has racism changed over time? Are the vast majority of Americans racist? Or does racism largely exist without racists? Is racism a problem we can overcome? Or is it a permanent feature of American democracy? This lecture course will examine these questions through a critical reconstruction of the most prominent theories of racism in the social sciences and humanities, identifying the concept’s central problem space, while simultaneously opening up the question, what, if anything, can be done to intervene on this stubbornly persistent problem. Along the way, we will also interrogate related concepts like racial injustice, racial prejudice, race relations, racial inequality, white supremacy, antiblack racism, and herrenvolk democracy.

AFRI 0880. Hip Hop Music and Cultures. This course will explore both the history of the emergence of Hip Hop and the heated debates that surround it: aesthetics, censorship, sexism, violence, musical theft, originality, authenticity, the politics of cross-racial exchanges, urban black nihilism, and corporate influences on culture. These debates will be framed by our consideration of urban black life, African-American cultural formations, gender, representation, technology, commodification, pleasure and politics. Enrollment limited to 200.

AFRI 1060D. The Harlem Renaissance: Art, Literature, and Classic Women Blues. In this undergraduate course, we will focus on the Harlem Renaissance, also known as the New Negro Movement, the important African American artistic and socio-cultural moment that dates roughly from 1919-1934. Organized as an interdisciplinary course, we will examine the historical context of the period; the literature including novels by Jean Toomer and Richard Wright; the art including the painting of Aaron Douglas, the sculpture of Richmond Barthé, and the photography of James Van Der Zee; and the music and lyrics of Gertrude “Ma” Rainey and Bessie Smith. We will also read a range of writers from the period including Marita O. Bonner, W. E. B. Du Bois, Marcus Garvey, Langston Hughes, Zora Neale Hurston, Alain Locke, Elise Johnson McDougald, and George S. Schuyler.

AFRI 1090. Black Freedom Struggle Since 1945. Lecture course that examines the extended history of the mass civil rights movement in the U.S. Starting at World War II, we consider the roles of the courts, the federal and state governments, organizations, local communities, individuals and various activist strategies in the ongoing struggle for African American equality, focusing on African American agency, particularly in the South, but also in Boston, Mass. Sources include photographs, documentaries, movies, letters, speeches, autobiographies, and secondary readings. Requirements: Weekly readings, documentary viewings, 4 short papers, 2 exams.

AFRI 1112. What’s Popping: The Contemporary Black Theatre Workshop. Open to all Brown students, this course introduces students to contemporary (post-1980) Black theatre history, theory, and artistic practice. Students will read, analyze and interpret a range of influential plays such as What to Send Up When It Goes Down, Hurt Village, Twilight, Topdog/Underdog, Choir Boy, Body candy, Diary of a Mad Black Woman, and Fences. Course work includes opportunities to perform scenes and monologues, see live theatre in and around Providence, and devise original performances. The seminar culminates in an Artists Salon featuring students’ work. No previous acting, improv, movement, directing, playwriting or Black theatre experience required. No prereqs. All are welcome.

AFRI 1215. The Visual Culture of 1930s: Race, Gender, and the Laboring Body. The 1930s mark a moment of extraordinary change in the United States. The Great Depression precipitated a rethinking and reordering of the federal government’s response to economic, political, and social institutions. As part of this rethinking, the federal government sponsored an unprecedented number of art projects, creating jobs for thousands of painters, sculptors, photographers, printmakers, architects, filmmakers, writers, and actors. However, the New Deal art projects of President Franklin D. Roosevelt were not the only response to the changing times. The 1930s also saw the rise of leftist political artists and the strikingly conservative art forms of the so-called “Regionalist” painters. In this seminar, we will consider the federal art projects of President Franklin D. Roosevelt, social realism (broadly conceived), and the world’s fairs of the period—sometimes called the “Century-of-Progress” expositions.

AFRI 1360. Africana Studies: Knowledge, Texts and Methodology. This course will explore the issues of Africana Studies as a discipline by engaging in a series of critical readings of the central texts, which laid the protocols of the discipline. The course will also raise issues of knowledge production and methodologies. This course is a senior capstone seminar. Open to all senior Africana Studies concentrators; others by instructor permission only. Enrollment limited to 25.

AFRI 1510. Making and Remaking Blackness in the Western World. This course is an interdisciplinary survey of cultural, social, and political expressions of Blackness among people of African descent in the Western World, primarily the United States, and the social forces that create various understandings of this identity. Black experiences and reflections on what it means to be Black are articulated in writing, visual and performing arts, music, and social media. Students will read, listen, and view a wide set of materials that reflect people of African descent and their negotiation, rejection, and reimagining of different forms of Blackness in affirmative and complex ways from the 18th century to the present. Primary and secondary texts will comprise the course readings and range from cultural studies, philosophy, critical race theory, sociology, political science, literature, and history, among other areas.

AFRI 1970. Independent Reading and Research. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.
A preoccupation of Africana Studies involves the central, highly contested role of the notion of what constitutes black culture in the modern world. To what degree can we claim aesthetic and other distinctions between black cultures in the Diaspora and other western cultural practices and expressive forms? What role did enslavement, forced migration and segregation play in shaping Africana culture in the modern west? These cultural debates play a central role in literary, musical, philosophical, aesthetic, historical and sociological analyses of the culture of people of African descent. Frame this graduate course.
Spr AFRI2002 S01 26440 M 3:00-5:30(03) (M. Guterl)

AFRI 2105. Professionalization Seminar.
This course explores the mechanics of a doctorate degree in Africana Studies. We will explore the constitution of our field through the elaboration of exam lists and narratives, query its pedagogical application in the design of undergraduate syllabi, and begin to outline and enact our participation in the profession both within and beyond the academy. At the end of this class, students will have constructed a portfolio that will assist their progress towards a degree and provide the tools with which to chart pathways once a degree is in hand. A key component of the professionalization courses is the construction of an undergraduate syllabus by each student, which will subsequently be revised and discussed during the dissertation proposal defense, and which will be discussed in either the first semester of the student’s fourth or fifth year.
Fall AFRI2105 S01 17914 M 3:00-5:30(03) (M. Guterl)

AFRI 2450. Exchange Scholar Program.
For graduate students who have met the tuition requirement and are paying the registration fee to continue active enrollment while preparing for a preliminary examination.
Fall AFRI2450 S01 16070 Arranged 'To Be Arranged'
Spr AFRI2970 S01 16071 Arranged 'To Be Arranged'

AFRI 2970. Preliminary Examination Preparation.
For graduate students who have met the tuition requirement and are paying the registration fee to continue active enrollment while preparing for a preliminary examination.
Fall AFRI2970 S01 16071 Arranged 'To Be Arranged'
Spr AFRI2970 S01 24830 Arranged 'To Be Arranged'

AFRI 2980. Graduate Level Independent Reading and Research.
A program of intensive reading and research. Section numbers may vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

AFRI 2990. Thesis Preparation.
For graduate students who have met the residency requirement and are continuing research on a full time basis.
Fall AFRI2990 S01 16072 Arranged 'To Be Arranged'
Spr AFRI2990 S01 24831 Arranged 'To Be Arranged'

AFRI XLIST. Courses of Interest to Concentrators in Africana Studies.
Fall 2023
The following courses may be taken for concentration credit. Please see the sponsoring department for the time and location of each course.

Political Science
POL 2341 Supposing Hannah Arendt is Antiflaw. Then What?

American Studies

American Studies

AMST 0150K. Culture, Communities, and Change.
Studying varied organizations such as museums, community arts groups, rock bands, and dance companies, this seminar works on three levels. Students consider the role of cultural production in local, national, and international economies and lives; think about methods for studying creative communities; and write the "biographies" of Providence cultural organizations. Issues of tourism, representation, hierarchy, urban space, and social change as well as questions about who puts culture to work and the role of cultural workers will be addressed. We will consider public humanities, engaged scholarship and community organizing as methods as we explore the Providence cultural scene. Enrollment limited to 17 first year students.
Fall AMST0150K S01 16273 Th 4:00-6:30(04) (S. Smulyan)

AMST 1200D. Popular Ideas: United States Political Culture from Above and Below.
This course will explore public debates shaped by interactions between the everyday worlds of popular culture and the formal spheres of intellectual debate and ideas. Organized around case studies from several periods of U.S. history, the course will examine how key themes in American culture and politics—democracy and capitalism, equality and exclusion, freedom and domination, war and peace, modernity and tradition, empire and internationalism—have been shaped by ideas originating from popular entertainments and movements, the treatises of philosophers, essayists, or reformers, and producers and audiences that blur the lines between the two. Overall, students should gain a working understanding of the evolution of both popular culture and intellectual thought and how they combined to reveal and shape the development of American democracy and the conflicts that have driven U.S. history. Sessions will combine short lectures, discussions, and primary source workshops.
Fall AMST1200C S01 16372 TTh 2:30-3:50(12) (S. Zipp)

AMST 1510. Museum Collecting and Collections.
This course will explore and examine the methods, practices, and theory of collections management in a museum setting including collections development, museum registration methods, cataloging, collections care, and interpretation. Through readings, discussion, workshops, site visits, and assignments, students will explore what it means to be physically and intellectually responsible for museum objects. This course places heavy emphasis on experiential learning and will include several project-based assignments.
Fall AMST1510 S01 16592 TTh 10:30-11:50(13) (R. Potvin)

AMST 1600C. The Anti-Trafficking Savior Complex: Saints, Sinners, and Modern-Day Slavery.
How can we understand the global movement to combat human trafficking within critical frameworks on "industrial complexes"? Drawing from scholarship on the prison industrial, non-profit industrial, and white savior complexes this course examines human trafficking through the lens of race, class, gender, and national forms of power and subjectivity. Readings will problematize the so-called saints and sinners of the movement, investigating various global helping projects that exist to stop "modern day slavery."
Fall AMST1600C S01 16286 MWF 12:00-12:50(15) (E. Shih)

AMST 1611S. US Popular Culture.
This course focuses on the relationship between popular culture, media, and society and provides an overview of social structures, content, audiences, and effects. The core mission of this class is to connect popular culture to the larger world in which it is produced and consumed. We examine the institutional and social contexts of cultural production and consumption in the United States. We will cover a variety of cultural forms (e.g. music, film, tv, and social media) and explore culture as an arena of conflict and a vehicle for social change. Other areas of focus include the meaning of aesthetics and style in daily life, cultural gatekeeping, and the role of social media platforms in shaping the production, distribution, and consumption of cultural texts/commodities.
Fall AMST1611S S01 16276 MWF 11:00-11:50(16) (R. Baldoz)

AMST 1612Q. Women / Writing / Power.
An introduction to American women’s writing and to the development of feminist literary practice and theory. This course will cover a broad historical range from the colonial poets Anne Bradstreet and Phillis Wheatley to contemporary writers Toni Morrison, a Nobel Laureate, and Marilynne Robinson, a Pulitzer Prize winner. Attention to the effects of racial, class, and cultural differences will inform this course that will focus on gender and literature.
Spr AMST1612C S01 25251 MWF 12:00-12:50(01) (B. Haviland)

This seminar offers a critical and comparative exploration of American music genres that operate as "heritage music" or "ethnic music" in the context of American multiculturalism. We will collectively investigate how musical practice and related discourse can construct, express, perpetuate, and sometimes challenge various cultural identities, community affiliations, and political ideologies. We will particularly attend to public performance contexts, including music festivals, club dancefloors, and live-streaming/
archived online performances. Case studies focus on rural Southern “folk” genres, Chicago blues and house, Asian American taiko ensembles, and norteño/tejano dance musics (from huapango to Selena). Readings draw on historical and ethnographic scholarship grounded in critical heritage studies and critical race theory. Limited to junior-year American Studies and Ethnic Studies concentrators.

Spr AMST1700FS01 25248  TTh 2:30-3:50(11)  (K. Miller)

AMST 1700X. Global Macho: Race, Gender, and Action Movies.
Carefully sifting through an oft-overlooked but globally popular genre - the muscle-bound action film - this class asks: what sort of racial work does an action movie do? What is the role of women in this genre? How should we scrutinize these supposedly empty tri flies of the global popular? How should we think critically about movies that feature - often without apology - a deep, dangerous obsession with masculinity, patriarchy, war, and lawlessness, with violence outside of civil society. In short, from Hollywood to Hong Kong to Rio to Paris to Mexico City, what makes the action movie genre tick?
Fall AMST1700XS01 16270  MWF 10:00-10:50(14)  (M. Gutier)

AMST 1800T. Disability: History, Theory, and Bodily Difference.
This seminar explores the history of disability across cultural, legal, medical, and political dimensions of American life. We will consider the changing meanings of disability, the history of disability activism and communities, representations of disabilities, and the relationship between technology and the body. We will also discuss the intersections between disability and other categories of difference such as gender, race, and sexuality.
Spring AMST1800S01 25244  T 3:00-5:30(15)  (E. Shi)

AMST 1900T. Eyes on the Prize: Literary Fiction as Cultural Capital.
In this course we will read selected novels that have won recent national prizes, including the Pulitzer Prize, the National Book Award, the Newberry Award, the Anisfield-Wolf Award, to understand how the creation and circulation of cultural capital works in the USA. Alternative modes of evaluation, such as #Booktok and Oprah’s Book Club, will be explored. Students will choose what criteria will be considered for the readings in the second half of the course. Particular attention will be paid to gender, sexuality, race and class as categories of analysis in order to explore the relations between art and prestige in contemporary culture.
Spring AMST1900ZS01 25252  W 3:00-5:30(10)  (B. Haviland)

AMST 1900V. Virtual Bodies: Play, Power, Performance.
This seminar investigates digital media practices at the intersection of virtual and embodied experience, from video games and virtual communities to viral dance videos and motion-sensing surveillance systems. How do digitally mediated play, performance, and participatory culture incorporate and/or undermine technologies of power and control? How have new interfaces and media platforms invoked and reshaped ideas about liveness, creativity, authenticity, community, and privacy? What happens when embodied techniques and repertoires are taught and learned using digital media? Readings draw on media ethnography, performance studies, interface studies, and theories of intersectional embodied identity. Class members will undertake a series of practice exercises in which they learn new skills from online sources and collectively reflect on this process. Registration permission granted based on questionnaire distributed at first class meeting.
Fall AMST1900VS01 16271  F 3:00-5:30(11)  (K. Miller)

AMST 1906X. Black Queer Life.
This course explores how Black writers and artists represent and theorize a diverse array of Black genders and sexualities. We will begin with a series of conversations on the origins of Black queer theory, and then use these conversations to anchor us in our readings of Black queer life in literary and popular culture. Reading across a range of genres, including film, music, poetry, comics, and short fiction, we will collectively consider the ways Black gender, and sexuality work with other markers of difference and social status such as race, class, ability, and nationality to demarcate possibilities, freedoms, choices, and opportunities available to Black people. We will learn from theorists, writers, and artists including Audre Lorde, Cathy Cohen, E. Patrick Johnson, Nicole Dennis Benh, Alexis Pauline Gumbs, Danez Smith, Janelle Monae, Samuel Delany, among many others.
Fall AMST1906XS01 16319  TTh 1:00-2:20(06)  (K. Murphy)

This course concerns the problem of selfhood in the history of U.S. culture and politics. The nation’s liberal ideals of freedom, based on individual self-possession, have long been troubled by visions of sociality and the realities of difference. How have foundational distinctions between independence and dependence been reshaped by the challenges of interdependence and the hierarchies of class, race, and gender produced by the nation’s capitalist economy and its history of social division? Can American individualism survive? Should it? We will track these problems throughout U.S. history, from the founding of the American self at the high tide of classical liberalism, to the history of debates over slavery and freedom of contract, to the advent of corporate capitalism and the “social self,” through the challenge of totalitarianism and mass society, to the rise of “subjectivity” and neoliberal strategies.
Spring AMST1907ES01 25394  W 3:00-5:30(10)  (S. Zipp)

AMST 1970. Independent Reading and Research.
Required of all honors candidates in the senior year. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course. S/NC

AMST 2010. Introduction to Interdisciplinary Methods.
Introduction to interdisciplinary studies required of all first-year graduate students in American Studies. Graduate students from other departments may enroll with permission of the instructor.
Fall AMST2010 S01 16367  Th 1:00-3:30(06)  (R. Rodriguez)

AMST 2220X. Asian American Racial Formations.
This seminar provides a critical engagement with the histories of people of Asian descent in the United States from the nineteenth century to the present. Using a thematic and chronological approach we will pursue questions that aim to deepen our understanding of connections between past and present. We will focus on the experiences of people with ancestries in China, Koree, the Philippines, Southeast Asia, Japan South Asia and the Pacific Islands exploring commonalities and differences along axes of nationality, class, gender, ethnicity, culture, and state power. Topics to be addressed include colonialism, labor migration, anti-Asian violence and exclusion; community formation and interracial solidarity; “Yellow Peril” and Model Minority” ideologies; political activism; and the construction of the category of “Asian American.”

For up-to-date course information please visit Courses@Brown (https://cabs.brown.edu).
Focusing on recent scholarship, this course explores the use of aesthetics among minoritarian subjects to elaborate a politics of relation. Exploring origins in women of color, black radical, and queer of color scholarly traditions, alongside methodologies from cultural studies and visual culture studies, we will read diagnoses of and responses to power as well as imaginings of alternate social formations. In addition to recent scholarship, we will also consider recent exhibitions and artist talks.

AMST 2221C. Afro-Asian America: Intraminority Relations in Historical Perspective
In this graduate seminar, we explore the subject of Asian-Black relations in the United States, domestically and internationally, toward a deepened understanding of how intraminority relations inform U.S. race relations and racial formations. Topics include shared and overlapping struggles against colonialism, interracial solidarity and the Third World Left, the theory of racial triangulation, social and sexual intimacy across race, and the so-called "Black-Korean conflict" of the 1980s and 1990s. Readings will chart how the study of Asian-Black relations have changed over time and illuminate why the subject remains salient while drawing from a range of discipline-based and interdisciplinary approaches. History and historical approaches will be especially foregrounded, thus the class also includes attention to approaches from interdisciplinary and other discipline-based fields.

AMST 2221D. Tracked: Critical Surveillance Studies.
This graduate seminar investigates historical and contemporary technologies and practices of surveillance, drawing on the established field of Surveillance Studies as well as relevant literature in performance studies, media ethnography, software/platform studies, sociology of labor, and history of science. We will address confluences of moving bodies, disciplining technologies, and state power: for example, motion-sensing systems operating at scales ranging from individual fitness trackers to drone monitoring of refugee movements. Key topics include sousveillance, dataveillance/data bodies, racialized surveillance, algorithmic bias, surveillance art, and surveillance capitalism. Instructor override required; permission to register will be granted after first class meeting.

AMST 2450. Exchange Scholar Program.
This course provides an introduction to major issues and formative readings are highly interdisciplinary drawing from scholarship in history, race and ethnic diversity. Explores the historical and contemporary experiences of racial and ethnic groups in this country and analyzes different forms of representation of those experiences, as well as representations of the racial and ethnic stratification in the U.S. imagination.

AMST 2660. Projects in Public Humanities.
Devoted to one or more advanced projects in Public Humanities not covered in detail by the regular courses. Projects in public humanities provide practical, hands-on project and group project management experience that is essential for careers in museums, historic preservation, and cultural agencies. Students will work with faculty advisor to project completion. Written permission and topic description required. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course. This course is repeatable for credit. Prerequisite: AMVC 2650 or demonstrated ability of equivalent experience. Instructor permission required.

AMST 2920. Independent Reading and Research.
Section numbers vary by instructor. Search Banner by instructor name to find the correct section number and CRN to use when registering for this course. You will need instructor permission to register and the course may be repeated with different instructors. Open to American Studies graduate students only. S/NC

AMST 2921. Independent Reading and Research.
Section numbers vary by instructor. Search Banner by instructor name to find the correct section number and CRN to use when registering for this course. You will need instructor permission to register and the course may be repeated with different instructors. Open to American Studies graduate students only. S/NC

AMST 2922. Independent Reading and Research.
Section numbers vary by instructor. Search Banner by instructor name to find the correct section number and CRN to use when registering for this course. You will need instructor permission to register and the course may be repeated with different instructors. Open to American Studies graduate students only. S/NC

AMST 2950. Independent Reading and Research in Public Humanities.
For MA in Public Humanities Students who wish to do independent reading and research.

AMST 2990. Thesis Preparation.
For graduate students who have met the residency requirement and are continuing research on a full time basis.

Ethnic Studies
ETHN 0190A. Islands of Empire: Sounds and Silences.
A mural painted on a cement wall in Old San Juan, Puerto Rico greets you with, “Welcome to the oldest colony.” In five words, this small portion of the mural speaks to a legacy of empire and colonialism. This course brings Puerto Rico in dialogue with other past/present U.S. colonies and neocolonies such as Cuba, Dominican Republic, Guam, Philippines, and Hawai’i and their diasporas. Listening to spoken word, murals, music, oral histories, podcasts, and other mediums of sound and silence, we examine themes of race, sovereignty, colonialism, and empire across new geographic re-imagining.

ETHN 1000. Introduction to American/Ethnic Studies.
Considers the U.S. as a society whose unifying identity is rooted in ethnic and racial diversity. Explores the historical and contemporary experiences of racial and ethnic groups in this country and analyzes different forms of representation of those experiences, as well as representations of the racial and ethnic stratification in the U.S. imagination.

ETHN 1200B. Contemporary Indigenous Education in North America.
In the past, formalized schooling in Indigenous communities was a tool of colonization and cultural genocide, forcing Native peoples to assimilate to western norms, values, and knowledge. However, contemporary Indigenous communities have managed to reclaim and reshape education for Native youth, utilizing innovative methods and technologies, as well as drawing upon generations of traditional and indigenous knowledges to create environments that promote academic achievement alongside culture. In this course we will focus on the ways Native communities are asserting their educational sovereignty, through culturally-relevant/responsive curriculums, language immersion schools, indigenous charter schools, traditional ecological and scientific knowledges, and more.

ETHN 1200C. Introduction to Asian American Studies.
This course provides an introduction to major issues and formative historical moments within the field of Asian American Studies. Course readings are highly interdisciplinary drawing from scholarship in history, literature, sociology and political science. This course spans multiple
historical moments beginning in the mid-1800s and continuing through the present. Topics covered include Asian immigrant and refugee experiences, the movement for Asian American Studies, the construction of an Asian American pan-ethnic identity, community political mobilization and efforts to combat Islamophobia and anti-Asian violence.

ETHN 1200K. Introduction to American Indian Studies. This class examines the politics, cultures, histories, representations, and study of the Native peoples of North America, with a primary focus on the United States. Although broad in cultural and geographic scope, the course does not attempt to summarize the diverse cultures of the several hundred Native groups of the continent. Instead, we will focus on several key issues in the lives of, and scholarship about, American Indian/Native American/First Nations/Indigenous peoples in the US. The course will consist of lecture on Monday and Wednesday, and once a week section meetings for discussion.

ETHN 1200N. Introduction to Asian American History. This course provides an introduction to the histories of people of Asian descent in the United States from the late 18th century to the present. We will focus on the experiences of people with ancestries in East Asia, Southeast Asia, South Asia, and Central Asia, considering modernities and differences by nationality, class, gender, religion, place, and other factors. Topics include orientalism in U.S. culture, immigration and exclusion, Asian American civil rights struggles, and the “model minority.”

ETHN 1612E. Black Archival Experiments. This course examines the political and cultural significance of the archival turn in Black Studies. Considering the fraught nature of historical documents that narrate the history of the United States, Black Studies scholars and creatives have developed experimental and interdisciplinary methodologies to remember and archive the stories, histories, and narratives of Black communities. In this class, we will engage two key questions: How do Black scholars and artists use and imagine the archives to tell alternative stories of Black life? What is the relationship between speculation and archival practice in Black culture? Students will engage the work of scholars and artists such as Saidiya Hartman, Tina Campt, Christina Sharpe, Alexis Pauline Gumbs, Fred Moten, Hortense Spillers, Octavia Butler, among many others. Alongside course materials, students will also experiment and engage with the Black Feminist Theory Collections at the John Hay Library.

ETHN 1750D. Transpacific Asian American Studies. This is an advanced undergraduate seminar that is also open to American Studies and other graduate students for graduate credit. It is designed to help us think about the Pacific as a historical space where the Asian American formation is constructed, as goods, people and ideas circulate across the Pacific. We will explore ways which these historical circuits and exchanges have shaped questions of identity and belonging, taking China and the Americas as our principal points of connection. We will read across a number of fields, including: Asian Studies, American Studies, Asian American Studies, Latin American and Caribbean Studies.

ETHN 1750L. Latina Feminisms. This course will serve as a focused and rigorous exploration of Latina feminist cultural production. Our analysis driven seminar discussions will include critical consideration of novels, short stories, film, and performance and visual art largely by and about Latina women. Their work will address topics that include: gendered expectations, non-normative sexuality, race hierarchies, labor, reproductive justice, and gendered violence. Together we will query how cultural objects come to function as salient social and political texts in order to ascertain the relationships and challenges that Latina feminists bring to dominant discourses of race, gender, sexuality, and nationalism, among others.

ETHN 1750Y. Native Pacific Islander Movements for Decolonization. What does a decolonized present and future for the Indigenous peoples of Oceania entail? Relatedly, what strategies and approaches have Native Pacific peoples utilized in advocating for Indigenous sovereignty and self-determination? In what ways has this work centered Native Pacific epistemologies and world views and how does taking these knowledges into account allow for the contestation of colonial narratives of Oceania and its peoples? Focusing on Native Pacific peoples' efforts to promote political status referendums, language education, food sovereignty, and cultural preservation as well as activism contesting the ongoing effects of nuclear imperialism, militarism, and settler colonialism, this seminar provides an overview of historical and contemporary movements for decolonization in the region. Students will also be invited to contribute to a collaborative digital humanities project which will serve as a resource for K-12 educators, scholars, and activists interested in these topics.

ETHN 1900E. Senior Seminar in Ethnic Studies. No description available.

ETHN 1910. Independent Study. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

ETHN 1920. Senior Thesis. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

Native American and Indigenous Studies

NAIS 1900. Critical NAIS Capstone Course. This seminar serves as the capstone course for the Critical NAIS concentration, providing seniors the opportunity to share their research; reflect on what the field of NAIS is (and is becoming); and consider how their work relates to the field as a whole. This seminar is not intended to develop a monolithic understanding of the field, but to explore the range of problems, methodologies, trajectories of inquiry and political aims across different kinds of NAIS scholarship. To gain a specific sense of these various approaches, we focus on scholarship-in-progress, building the syllabus based on areas of interest and expertise, finalized in a capstone project, practicum, internship or thesis. As the culmination of the concentration, the capstone may take the form of a research paper, project, and/or engaged experience or internship accompanied by a write up (thesis, report, digital product or presentation).

PHUH 2060. Projects in Public Humanities. Devoted to one or more advanced projects in Public Humanities not covered in detail by the regular courses. Projects in public humanities provide practical, hands-on project and group project management experience that is essential for careers in museums, historic preservation, and cultural agencies. Students will work with faculty advisor to project completion. Written permission and topic description required. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course. This course is repeatable for credit. Prerequisite: AMST2650 or PHUM2010 or demonstrated ability of equivalent experience. Instructor permission required.

PHUH 2065. Independent Reading and Research in Public Humanities. For MA in Public Humanities Students who wish to do independent reading and research.

Anthropology

ANTH 0100. Introduction to Cultural Anthropology. This course provides an introduction to cultural anthropology, surveying its defining questions, methods, and findings. We will examine the history and utility of anthropology's hallmark method, ethnography, the long-term immersion of the researcher in the culture under study. We will compare
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### ANTH 0300. Culture and Health

An introduction to the field of Medical Anthropology. Lecture reading and discussion will examine the social context of health and illness, looking at the diverse ways in which humans use cultural resources to cope with disease and develop medical systems. The course will provide an introduction to the overall theoretical frameworks that guide anthropological approaches to studying human health related behavior. Medical anthropology offers a unique and revealing perspective on the cultural diversity that characterizes human experiences of sexuality, disease, aging, mental illness, disability, inequality and death.

### ANTH 0350. Suffering and Compassion

One might say that to be human is to suffer, but what is suffering? Is it to be avoided or embraced? To what ends? The answers to these questions are not just personal or psychological. Rather, they are deeply sociocultural and historical. Orientations toward suffering shape major aspects of life, such as religion, politics, humanitarianism, and medicine. This course explores different ways that society and culture create suffering, and ways that suffering shapes society and culture. This happens not just in suffering itself but also in ways that people try to overcome suffering. Therefore, we also consider the relationship of compassion, empathy and sympathy, and other forms of care to suffering, always paying close attention to questions of the unequal distributions of both suffering and compassion to different groups of people.

### ANTH 0500. Past Forward: Discovering Anthropological Archaeology

This course offers a broad journey through the human past, from material culture crafted by our evolutionary ancestors to the remnants of the recent historic past. To facilitate this journey, the class explores the methods, concepts, and theories that anthropologists employ in the study of past peoples, places, and things. Case studies stretch across the globe. As a hands-on endeavor, archaeology focuses on tangible evidence. In this course, small-group discussion, laboratory, and field exercises will complement lectures, leading to an understanding of how anthropologists study the past and how that knowledge affects the present.

### ANTH 0680. Anthropology of Food

An exploration of the human experience of food and nutrition from evolutionary, archaeological, and cross-cultural perspectives. The course will review the various approaches employed by anthropologists and archaeologists to understand diet and subsistence in the past and present. Starting with the evolutionary roots of the human diet in Plio-Pleistocene Africa, we will trace patterns of human subsistence to the present, including the social and health implications of the agricultural revolution. We will then explore modern foodways in cross-cultural perspective, focusing on the interplay of ecology, politics, technology, and cultural beliefs.

### ANTH 0800. Sound and Symbols: Introduction to Linguistic Anthropology

This introduction to the study of language and culture considers how language not only reflects social reality but also creates it. We'll examine specific cases of broad current relevance, in the process learning how an analytical anthropological approach to language use lays bare its often hidden power. We'll consider how language creates and reinforces social inequality and difference, how language promotes and resists globalization, and how language is used creatively in performance, literature, film, advertising, and mass media. We will also consider how language does important social work in specific contexts, such as classrooms, courtrooms, medical settings, and political campaigns.

### ANTH 1030. Pre-Columbian Art and Architecture: A World That Matters

Survey of ancient art and building in ancient America, with a focus on Mexico, Central America, and the Andes. Underlying concepts include:

- meaning and method, cosmos and kingship, narrative and symbol, personality and authorship, empire and royal court.
- Rich collections of the Haffenreffer museum will form the focus of work in the class.

### ANTH 1031. Classic Mayan Civilization

Examines the history, culture, and society of the Classic Maya, with special emphasis on Preclassic precursors, dynasties, environmental adaptation, imagery, architecture, urban form, and the Maya Collapse. Spr ANTH1031 S01 25351 TTh | 2:30-3:50(11) |

### ANTH 1125. Indigenous Archaeologies

This is an intro. to Indigenous archaeology, sometimes defined as archaeology "by, for and with Indigenous peoples." These approaches combine the study of the past with contemporary social justice concerns. However, they are more than this. In addition to seeking to make archaeology more inclusive of and responsible to Indigenous peoples, they seek to contribute a more accurate understanding of archaeological record. They thus do not reject science, but attempt to broaden it through a consideration of Indigenous epistemologies. This course covers topics as the history of anthropological archaeology, Indigenous knowledge and science, decolonizing methodologies, representational practices and NAGPRA.

### ANTH 1150. Middle East in Anthropological Perspective

A seminar focusing on anthropological methods of analyzing and interpreting Middle Eastern cultures and societies. Emphasizes the study of kinship, tribal structure, social organization and gender relations, ethnic groups relations, and urban-rural distinctions. Draws upon insights from these topics as a basis for understanding contemporary social, economic, and political dynamics in the region.

### ANTH 1236. Urban Life: Anthropology in and of the City

This course examines how anthropologists have worked in the city -- to understand dwelling and lived experience from the center to the margins of society; as well as how anthropologists have contributed to the study of the city -- conceptualizing the city itself in relation to its inhabitants, and working to understand how cities develop, decline, or are sustained. Anchored in key theory, classic texts, and contemporary ethnography, the course traces the history, present, and possible futures of the discipline. Students learn the methods of urban ethnography, and gain hands-on experience through local field exercises and related writing assignments.

### ANTH 1253. The Visual and the Written in Anthropology: Fruzzetti's Documentary Films and Ethnographic Research

A seminar that analyzes the making of films in the light of ethnographic research in rural India. The course addresses fifty years of research covering the journey of an anthropologist's work in a rural Bengali town, documenting the voices and narratives of women. The research is immersed in traditional ethnographic fieldwork, followed by the publication of books and articles that complement Fruzzetti's films. Documentary films and texts will demonstrate a continuity between visual and written works. Do films inform or deviate from our understanding of written ethnography (and vice versa)? What distinguishes early documentary films from later ethnographic ones? Do films record "reality" or interpret just as written works do? Should ethnographic study come before the making of documentary films? Can anthropological theory develop in relation to or separate from ethnographic films?

### ANTH 1300. Anthropology of Addictions and Recovery

The purpose of this course is to consider the uses and misuses alcohol, tobacco and drugs, and approaches to recovery from addictions. We will read some of the major cross cultural, ethnographic, linguistic, and social-political works on addictions. Students will conduct their own anthropological interviews regarding substance misuse and recovery as well as observe a local 12 step recovery meeting in the community. Students will engage in discussions of recovery with community partners. Enrollment limited to 20.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
ANTH 1301. Anthropology of Homelessness.
Homelessness emerged as a public concern in the United States and in other industrialized countries in the late 1970s as people began encountering people living on the streets, a way of life formerly confined to the skid rows of large cities. In this course, through readings, discussion, and hands-on experiences with individuals and families experiencing homelessness, we will uncover the causes, conditions, and responses to homelessness. Each student will spend at least two hours per week in a local homeless-serving community partners in order to gain face-to-face experiences. The field placements will be facilitated by the professor.
Spr ANTH1301 S01 25352 W 3:00-5:30(10) (I. Glasser)

ANTH 1560. Environmental Archaeology: Sustainability, Catastrophe, and Resilience.
How did people in the past respond to environmental crisis? How did they modify their environments to suit their needs—sometimes to long-term detriment? How did they engage in sustainable practices, and build resilience into their local ecologies? In this course you will learn how archaeologists reconstruct paleoenvironments using multidisciplinary approaches, including botanical analyses, soil studies, and GIS modeling. You will learn how archaeologists tackle the problem of identifying ethnecological relationships in the deep past, and how they track the impacts of these relationships on human history and the environment. Key case studies will be drawn from ancient societies in the Mesopotamia, Polynesia, West Africa, the American Southwest, Western China, the North Atlantic, and the Maya area.
Spr ANTH1560 S01 25725 TTh 10:30-11:50(09) (S. Morel-Hart)

ANTH 1601. Reimagining Climate Change.
We know what causes climate change and we know what to do about it—yet it seems we only keep making it worse. Our climate stalemate suggests we need to look critically at the dominant responses to climate change so as to identify: why have they become commonsensical yet ineffectual or unrealizable; and why other responses remain silenced or unexplored. Such a lens impels us to reconsider silver-bullet “solutions” while creating space for views marginalized by exploitative, racist, patriarchal, and anthropocentric systems. Toward these ends, this course will prepare students to reconceptualize climate change and reimagine our responses to it.
Spr ANTH1601 S01 25359 F 3:00-5:30(15) (M. Lennon)

ANTH 1621. Material Culture Practicum.
The course explores the ways that anthropologists think about and interpret material culture and provides an opportunity to study the artifacts of everyday life found at historical archaeological sites in the Atlantic World firsthand. Focusing on an assemblage from a site that was a place of intercultural trade, conflict, and enslavement, students will learn how material evidence reveals the entanglements of Indigenous, European, and African people.
Spr ANTH1621 S01 25354 W 3:00-5:30(10) (P. Rubertone)

ANTH 1622. Archaeology of Settler Colonialism.
The course uses settler colonialism as a framework for understanding how European colonists attempted to displace and eliminate Indigenous peoples beginning in the 15th century and its historical implications for structural inequalities of race and gender. We will look at how settler colonialism is different from colonialism, and more importantly, at resistances challenging its ambitions. Case studies from North America mostly, but also Australia, South Africa, and other settler colonial societies will focus on historical archaeology’s contributions to illuminating settler colonialist strategies for establishing and maintaining settler sovereignty in light of concerns for decolonizing archaeological practices. We will give special attention to the insights gained about the experiences of dispossessed, enslaved, and marginalized peoples and their descendants, and the many ways their actions critiqued settler colonialism and imagined different futures.
Fall ANTH1622 S01 16900 TTh 10:30-11:50(13) (P. Rubertone)

ANTH 1623. Archaeology of Death.
Examines death, burial, and memorials using comparative archaeological evidence from prehistory and historical periods. The course asks: What insight does burial give us about the human condition? How do human remains illuminate the lives of people in the past? What can mortuary artifacts tell us about personal identities and social relations? What do gravestones and monuments reveal about beliefs and emotions? Current cultural and legal challenges to the excavation and study of the dead are foregrounded.
Spr ANTH1623 S01 25336 MWF 10:00-10:50(03) (P. Rubertone)

ANTH 1901. Anthropology in/of the Museum.
This course provides an introduction to museums from an anthropological perspective. Topics include politics of representation and the construction of the “Other”; objects, identity, and meaning; collecting and cultural property; and collaboration, community engagement, and indigenous self-representation. Assignments involve work with the Haagenruffer Museum of Anthropology’s exhibitions and collections. The course focuses on museums dedicated to natural and cultural history, but establishes theoretical and practical grounding for thinking about and working in other disciplines and other kinds of display institutions. It is suitable for both undergraduate and graduate students. There are no prerequisites; but familiarity with anthropology is presumed.
Spr ANTH1901 S01 25358 F 3:00-5:30(15) (C. Hodge)

This course is a year long two-semester workshop (offered in the fall and spring semesters) for students who are researching and writing an honors or senior thesis in Anthropology or a closely related field. Supplementing advisor support, the course will introduce students to best practices, shoring up essential skills in research design, methods, data interpretation, and written and oral presentation. Students will also participate in peer review, offering and responding to substantive and supportive feedback on their work in progress. The workshop, which meets every other week, is structured so that students can make substantial progress, following a recommended schedule to ensure the successful and timely completion of the thesis in the spring.
Fall ANTH1930 S01 16886 M 1:30-4:00(01) (R. Carter)
Spr ANTH1930 S01 25337 M 1:30-4:00 (R. Carter)

ANTH 1940. Ethnographic Research Methods.
To understand the different theoretical assumptions that shape research efforts; to examine how hypotheses and research questions are formulated; and to appreciate the ethical and scientific dimensions of research by hands-on experience in fieldwork projects. Prerequisite: One Anthropology course.
Spr ANTH1940 S01 25865 Th 4:00-6:30(17) (L. Fruzetti)

Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

This Senior Seminar capstone course is a critical look at the past, present, and future of anthropology. The class proceeds from the premise that we must know the history of our field in order to build a stronger discipline. It examines the contributions and missteps of past anthropologists. Among the key questions to address: What are the discipline’s aims and contributions in the 21st century? Has the field successfully integrated diverse voices and perspectives? Are their central theories and methods that have (and continue to) define the field? What does it mean to be an anthropologist?
Fall ANTH1990 S01 16899 TTh 10:30-11:50(13) (I. Jusimyte)

A seminar exploring fundamental theoretical and ethnographic currents in 20th- and 21st-century cultural anthropology.
Fall ANTH2010 S01 16705 Th 4:00-6:30(04) (D. Smith)

A seminar on the methodological problems associated with field research in social and cultural anthropology. Designed to help students prepare for both summer and dissertation research.
Spr ANTH2020 S01 25357 Th 4:00-6:30(17) (N. A-Ali)

ANTH 2600. Anthropology Dissertators’ Seminar.
This seminar is for post-field graduate students in residence at Brown who are at any stage of writing their dissertations. It is intended to support dissertators by providing a structured community, providing a setting for sharing goals, and workshops writing.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
ANTH 2130. Biopolitics.
Foucault’s concept of biopolitics transformed how anthropologists understand power, agency, modernity, and, more broadly, life itself. As a theoretical tool, it has informed a range of contemporary social science—from intersectional research on reproductive health to theories of the postcolonial state to ethnographies on consumerism. This course will introduce graduate students to the core components and theoretical lineages of biopolitics, and recent ethnographic and archival work that builds on and challenges Foucault’s seminal texts. We will highlight the work of Black, indigenous, women, and queer scholars who have sharpened our discipline’s apprehension of biopolitics through intersectional, postcolonial, and anti-racist perspectives.

Fall ANTH2130 S01 25355 W 3:00-5:30(10) (M. Lennon)

ANTH 2230. Medical Anthropology.
This graduate seminar provides a theoretical, methodological, and ethnographic foundation in medical anthropology. The focus will be on sociocultural approaches to the study of the suffering, illness and the body, though the course will also engage with key issues in biocultural approaches to understanding disease processes. Topics will include: social suffering, religion and medicine, local biologies, gender and the body, biotechnology, bioethics, caregiving and doctoring, and the global burden of disease.

Fall ANTH2230 S01 17112 W 3:00-5:30(10) (D. Smith)

ANTH 2450. Exchange Scholar Program.
Fall ANTH2450 S01 16075 Arranged 'To Be Arranged'
Fall ANTH2450 S02 16076 Arranged 'To Be Arranged'
Spr ANTH2450 S01 24833 Arranged 'To Be Arranged'

ANTH 2501. Principles of Archaeology.
Examines theoretical and methodological issues in anthropological archaeology. Attention is given to past concerns, current debates, and future directions of archaeology in the social sciences.

Fall ANTH2501 S01 16887 M 3:00-5:30(03) (S. Morell-Hart)

ANTH 2560. Lived Bodies, Dead Bodies: The Archaeology of Human Remains.
Bioarchaeology is the study of human remains from archaeological contexts. We will survey the "state of the art" in bioarchaeology, while exploring its relevance and application to the archaeology of complex societies. We will survey a range of bioarchaeological methods and applications, including paleopathology, stable isotope analysis, population affinity/ancient DNA, perimortem trauma, and body modification. In turn, we will explore how bioarchaeology can be used to approach a wide range of archaeological problems relative to complex societies, including subsistence, economy, migration, urbanism, social inequality, conflict and warfare, and identity. Open to graduate students only. S/NC.

Fall ANTH2560 S01 16898 TTh 9:00-10:20(05) (A. Scherer)

ANTH 2800. Linguistic Theory and Practice.
An introduction to theoretical and methodological issues in the study of language and social life. We begin by examining semiotic approaches to language. We turn to classical research on language as a structured system - covering such topics as phonology and grammatical categories - but we focus on the implications of such work for broader social scientific and humanistic research. We then consider areas of active contemporary research, including cognition and linguistic relativity, meaning and semantics, pronouns and deixis, deference and register, speech acts and performativity, interaction, verbal art and poetics, reported speech, performance, and linguistic ideology.

Spr ANTH2800 S01 25339 M 3:00-5:30(13) 'To Be Arranged'

ANTH 2970. Preliminary Examination Preparation.
For graduate students who have met the tuition requirement and are paying the registration fee to continue active enrollment while preparing for a preliminary examination.

Fall ANTH2970 S01 16077 Arranged 'To Be Arranged'
Spr ANTH2970 S01 24834 Arranged 'To Be Arranged'

ANTH 2980. Reading and Research.
Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

ANTH 2990. Thesis Preparation.
For graduate students who have met the residency requirement and are continuing research on a full time basis.

Fall ANTH2990 S01 16078 Arranged 'To Be Arranged'
Spr ANTH2990 S01 24835 Arranged 'To Be Arranged'

Applied Mathematics

For students in any discipline that may involve numerical computations. Includes instruction for programming in MATLAB. Applications discussed include solution of linear equations (with vectors and matrices) and nonlinear equations (by bisection, iteration, and Newton's method), interpolation, and curve-fitting, difference equations, iterated maps, numerical differentiation and integration, and differential equations. Prerequisites: MATH 0100 or equivalent.

Spr APMA0160 S01 26118 MWF 1:00-1:50(06) (P. Sentz)

APMA 0200. Introduction to Modeling.
This course provides an introduction to the mathematical modeling of selected biological, chemical, engineering, and physical processes. The goal is to illustrate the typical way in which applied mathematicians approach practical applications, from understanding the underlying problem, creating a model, analyzing the model using mathematical techniques, and interpreting the findings in terms of the original problem. Single-variable calculus is the only requirement; all other techniques from differential equations, linear algebra, and numerical methods, to probability and statistics will be introduced in class. Prerequisites: Math 0100 or equivalent.

Fall APMA0200 S01 17805 MWF 1:00-1:50(08) (J. Darbon)

This course provides a comprehensive introduction to ordinary differential equations and their applications. During the course, we will see how applied mathematicians use ordinary differential equations to solve practical applications, from understanding the underlying problem, creating a differential-equations model, solving the model using analytical, numerical, or qualitative methods, and interpreting the findings in terms of the original problem. We will also learn about the underlying rigorous mathematical foundations of differential equations. Prerequisites: MATH 0100 or equivalent; knowledge of matrix-vector operations, determinants, and linear systems.

Fall APMA0350 S01 17810 MWF 12:00-12:50(03) (P. Tabrizian)
Fall APMA0350 S02 17811 MWF 9:00-9:50(03) 'To Be Arranged'
Spr APMA0350 S01 26119 MWF 12:00-12:50(01) (P. Tabrizian)

This course provides an introduction to partial differential equations and their applications. We will learn how to use partial differential equations to solve problems that arise in practical applications, formulating questions about a real-world problem, creating a partial differential equation model that can help answer these questions, solving the resulting system using analytical, numerical, and qualitative methods, and interpreting the results in terms of the original application. To help us support and justify our approaches and solutions, we will also learn about theoretical foundations of partial differential equations. Prerequisites: APMA 0350 or equivalent.

Fall APMA0360 S01 17812 MWF 12:00-12:50(15) (Y. Guo)
Spr APMA0360 S01 26120 MWF 12:00-12:50(01) (Z. Yang)
Spr APMA0360 S02 26121 TTh 10:30-11:50(09) 'To Be Arranged'

APMA 0650. Essential Statistics.
A first course in probability and statistics emphasizing statistical reasoning and basic concepts. Topics include visual and numerical summaries of data, representative and non-representative samples, elementary discrete probability theory, the normal distribution, sampling variability, elementary statistical inference, measures of association. Examples and applications from the popular press and the life, social and physical sciences. Not calculus-based. No prerequisites.

Spr APMA0650 S01 26122 TTh 1:00-2:20(08) (W. Zhao)
APMA 1070. Quantitative Models of Biological Systems.
Quantitative dynamic models help understand problems in biology and there has been rapid progress in recent years. This course provides an introduction to the concepts and techniques, with applications to population dynamics, infectious diseases, enzyme kinetics, and cellular biology. Additional topics covered will vary. Mathematical techniques will be discussed as they arise in the context of biological problems. Prerequisites: APMA 0350 or equivalent.
Spr APMA1070 S01 26123 MWF 2:00-2:50(07) (P. Tabrizian)

APMA 1080. Inference in Genomics and Molecular Biology.
This course is an introduction to the probabilistic and statistical models that have found widespread use in genomics and molecular biology. The emphasis is on foundational models and ideas rather than practical application. Likely topics include Markov chains, hidden Markov models, directed graphical models, mixture models, linear regression, regularization, dimensionality reduction, clustering, Bayesian inference, and multiple hypothesis testing. Examples will focus on the connection to genomics and molecular biology, but all of these tools have found widespread use in a variety of disciplines. Mathematical and computational exercises will reinforce the topics presented in lecture. Prerequisites: APMA 1650 or equivalent; MATH 520 or equivalent; APMA 0160 or CSCI 0111 or equivalent.
Fall APMA1080 S01 17814 MWF 10:00-10:50(14) (M. Hamilton)

APMA 1160. An Introduction to Numerical Optimization.
This course provides a thorough introduction to numerical methods and algorithms for solving non-linear continuous optimization problems. A particular attention will be given to the mathematical underpinnings to understand the theoretical properties of the optimization problems and the algorithms designed to solve them. Topics will include: line search methods, trust-region methods, nonlinear conjugate gradient methods, an introduction to constrained optimization (Karush-Kuhn-Tucker conditions, mini-maximization, saddle-points of Lagrangians). Some applications in signal and image processing will be explored. Prerequisites: MATH 0180 or equivalent; MATH 520 or equivalent; APMA 0160 or CSCI 0111 or equivalent. APMA 1170 or equivalent is recommended.
Fall APMA1160 S01 17822 MWF 11:00-11:50(16) (B. Keith)

APMA 1170. Introduction to Computational Linear Algebra.
Focuses on fundamental algorithms in computational linear algebra with relevance to all science concentrators. Basic linear algebra and matrix decompositions (Cholesky, LU, QR, etc.), round-off errors and numerical analysis of errors and convergence. Iterative methods and conjugate gradient techniques. Computation of eigenvalues and eigenvectors, and an introduction to least squares methods. Prerequisites: MATH 0180 or equivalent; MATH 520 or equivalent; APMA 1170 or equivalent. Experience with a programming language is strongly recommended.
Fall APMA1170 S01 17823 MWF 9:00-9:50(09) (P. Sentz)

APMA 1200 serves as an introduction to stochastic processes and stochastic optimization. After a review of basic probability theory, including conditional probability and conditional expectations, topics covered will include discrete-time Markov chains, exponential distributions, Poisson processes and continuous-time Markov chains, elementary queuing theory, martingales, Markov decision processes and dynamic programming. If time permits topics selected from filtering of hidden Markov chains, renewal processes, and Brownian motion could be included. Prerequisites: APMA 1650 (or equivalent) and MATH 520 (or equivalent). The course assumes calculus, basic probability theory, and linear algebra.
Spr APMA1200 S01 26124 MWF 11:00-11:50(04) (Y. Sashodhara)

An introduction to the basic mathematical ideas and computational methods of optimizing allocation of effort or resources, with or without constraints. Linear programming, network models, dynamic programming, and integer programming. Prerequisites: MATH 0100 or equivalent; MATH 520 or equivalent; APMA 0160 or CSCI 0111 or equivalent. Prerequisite: APMA 1650 or equivalent.
Fall APMA1210 S01 17824 TTh 10:30-11:50(13) 'To Be Arranged'

APMA 1330. Applied Partial Differential Equations II.
Fall APMA1330 S01 17825 TTh 2:30-3:50(12) (Z. Yang)

APMA 1360. Applied Dynamical Systems.
This course gives an overview of the theory and applications of dynamical systems modeled by differential equations and maps. We will discuss changes of the dynamics when parameters are varied, investigate periodic and homoclinic solutions that arise in applications, and study the impact of additional structures such as time reversibility and conserved quantities on the dynamics. We will also study systems with complicated "chaotic" dynamics that possess attracting sets which do not have an integer dimension. Applications to chemical reactions, climate, epidemiology, and phase transitions will be discussed. Prerequisites: APMA 0350 or equivalent.
Spr APMA1360 S01 26125 MWF 9:00-9:50(02) 'To Be Arranged'

APMA 1560. Statistical Inference I.
APMA 1560 is an integrated first course in mathematical statistics. The first half of APMA 1560 covers probability and the last half is statistics, integrated with its probabilistic foundation. Specific topics include probability spaces, discrete and continuous random variables, methods for parameter estimation, confidence intervals, and hypothesis testing. Prerequisites: MATH 0180 or equivalent.
Fall APMA1560 S01 17826 MWF 10:00-10:50(07) 'To Be Arranged'
Fall APMA1560 S02 17827 MWF 2:00-2:50(07) (P. Tabrizian)
Spr APMA1560 S01 26126 MWF 9:00-9:50(02) (K. Mallory)
Spr APMA1560 S02 26127 MWF 10:00-10:50(03) 'To Be Arranged'

APMA 1655. Honors Statistical Inference I.
Students may opt to enroll in APMA 1655 for more in depth coverage of APMA 1650. Enrollment in 1655 will include an optional recitation section and required additional individual work. Applied Math concentrators are encouraged to take 1655. Prerequisites: MATH 0180 or equivalent.
Fall APMA1655 S01 17829 MWF 11:00-11:50(16) (W. Zhao)
Spr APMA1655 S01 26128 TTh 2:30-3:50(11) (C. Kilvans)

APMA 1660. Statistical Inference II.
APMA 1660 is designed as a sequel to APMA 1650 to form one of the alternative tracks for an integrated year’s course in mathematical statistics. The main topic is linear models in statistics. Specific topics include likelihood-ratio tests, nonparametric tests, introduction to statistical computing, matrix approach to simple-linear and multiple regression, analysis of variance, and design of experiments. Prerequisites: APMA 1650 or equivalent; MATH 0520 or equivalent.
Spr APMA1660 S01 26129 MWF 10:00-10:50(03) (K. Meng)

Examination of probability theory and mathematical statistics from the perspective of computing. Topics selected from random number generation, Monte Carlo methods, limit theorems, stochastic dependence, Bayesian networks, dimensionality reduction. Prerequisites: APMA 1650 or equivalent; programming experience is recommended.
Fall APMA1690 S01 17830 TTh 1:00-2:20(06) (K. Meng)

APMA 1710. Information Theory.
Information theory is the study of the fundamental limits of information transmission and storage. This course, intended primarily for advanced undergraduates and beginning graduate students, offers a broad introduction to information theory and its applications: Entropy and information, lossless data compression, communication in the presence of noise, channel capacity, channel coding, source-channel separation, lossy data compression. Prerequisites: APMA 1650 or equivalent.
Spr APMA1710 S01 26130 TTh 10:30-11:50(09) (C. Graham)

APMA 1740. Recent Applications of Probability and Statistics.
This course develops the mathematical foundations of modern applications of statistics to the computational, cognitive, engineering, and neural sciences. The course is rigorous, but the emphasis is on

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application. Topics include: Gibbs ensembles and their relation to
maximum entropy, large deviations, exponential models, and information
theory; statistical estimation and classification; graphical models, dynamic
programming, MCMC, parameter estimation, and the EM algorithm.
Graduate version: 2610; Undergraduate version: 1740. Prerequisites:
APMA 1650 or equivalent; programming experience; strong mathematics
background. APMA 1200 or APMA 1690 or similar courses recommended.
MATH 1010 or equivalent is recommended for APMA 2610.

Selected topics about the mathematics of graphs and networks with
an emphasis on random graph models and the dynamics of processes
operating on these graphs. Topics include: empirical properties of
biological, social, and technological networks (small-world effects, scale-
free properties, transitivity, community structure); mathematical and
statistical models of random graphs and their properties (Bollobás random
graphs, preferential attachment models, stochastic block models, phase
transitions); dynamical processes on graphs and networks (percolation,
cascades, epidemics, queueing, synchronization). Prerequisites: MATH
520 or equivalent; APMA 0350 or equivalent; APMA 1650 or equivalent;
programming experience. APMA 1200 or APMA 1690 or similar courses
recommended.

APMA 1910. Race and Gender in the Scientific Community.
This course examines the (1) disparities in representation in the scientific
community, (2) issues facing different groups in the sciences, and (3)
paths towards a more inclusive scientific environment. We will delve
into the current statistics on racial and gender demographics in the
sciences and explore their background through texts dealing with the
history, philosophy, and sociology of science. We will also explore the
specific problems faced by underrepresented and well-represented racial
minorities, women, and LGBTQ community members. The course is
reading intensive and discussion based. To be added to the waitlist for this
course, please go to https://go.providence.edu/2222222222222.

APMA 1920. Form and Formalism.
This seminar will examine formalisms across art and mathematics in order
to chart an intellectual pre-history of the computer and our contemporary
digital imaginary. We will investigate topics such as: conceptions of “form” in
twentieh-century theories of perception, collective psychology, and
geometry; methods of abstraction in twentieth-century art history and
mathematics; the emergence of cybernetics and artificial intelligence;
and anxieties about historicity and agency that motivated thinkers across
all fields. Central questions include: what is the relationship between
computation and creativity? How are truth and beauty understood and
valued in our respective fields? What in the history of formalisms made
this—the computer—and computational imaginary—possible? Ultimately
this course will inquire into an intellectual history in which the humanities have
always been digital, and new ways of thinking about human experience and
understanding were forged at the intersections of art history and math.

APMA 1930P. Mathematics and Climate.
Mathematical models play a critical role in projecting and understanding
climate processes. This course will discuss techniques for application
of theoretical models, computational experiments, and data analysis in
climate science, including oceanic, atmospheric, and ecological
phenomena. Intended for students in applied mathematics and other
concentrations with quantitative skills who are interested in applying
their knowledge to mathematical modeling and climate problems. No
previous coursework in climate science is required. Physical science
concepts and mathematical techniques will be introduced throughout the
course. Students will develop collaborative or individual projects later in
the semester. Prerequisites: APMA 0360, or APMA 0340, or written
permission; APMA 1650 or equivalent is recommended.

APMA 1930W. Probabilities in Quantum Mechanics.
We will start from scratch. We will be rigorous, while making a careful
accounting of the (surprisingly few) conceptual assumptions that lead
inexorably to consequences that are almost impossible to believe. With an
eye on some of the most startling and vexing of these, we will construct
a minimum mathematical foundation sufficient to explore: the abrupt
transition from the weird quantum to the familiar classical world; the
uncertainty principles; teleportation; Bell’s theorem and the Einstein-
Bohr debates; quantum erasure; the Conway-Kochen “free-will theorem”; (unbreakable) quantum encryption, and, an introduction to quantum
computing.

Fall APMA1930V S01 18688 MWF 2:00-2:50(01) (S. Geman)

APMA 1930X. Probability, Optimization, and Stochastic Calculus.
This senior seminar will explore various topics in probability, including
stochastic processes, stochastic optimization including optimal stopping
and optimal stochastic control, Brownian motion, stochastic calculus;
connection to partial differential equations, and some of their applications.
The class format will involve both lectures and class discussions. Calculus
based undergraduate probability, such as APMA 1650/1655 or MATH
1610, is required. Minimal experience in MATLAB is recommended, but
not required.

Fall APMA1930X S01 18489 MWF 10:00-10:50(14) (H. Wang)

APMA 1941E. Quasi-stationary Distributions.
The quasi-stationary distribution (QSD) of a Markov process with respect to
a set G characterizes the distribution of the process, given that it
has stayed in G for a very long time. Although there they have a long history
in probability, QSDs are not nearly as well understood as their (linear)
cousins, stationary distributions. Among other issues, the methods
available for numerically approximating QSDs are not nearly as good as
one would like, and to date there is a poor understanding of when QSDs
are unique when the set is unbounded. We will examine the topic in detail
and consider all aspects, including computational issues using Monte
Carlo and other methods. Prerequisites for the course are two advanced
undergraduate courses on probability and stochastic processes.
Spr APMA1941E S01 26438 MWF 2:00-2:50(07) (P. Dupuis)

Section numbers vary by instructor. Please check Banner for the correct
section number and CRN to use when registering for this course.

APMA 1971. Independent Study - WRIT.
Section numbers vary by instructor. Please check Banner for the correct
section number and CRN to use when registering for this course.
This course should be taken in place of APMA 1970 if it is to be used to satisfy
the WRIT requirement.

APMA 2190. Nonlinear Dynamical Systems I.
Basic theory of ordinary differential equations, flows, and maps. Two-
dimensional systems. Linear systems. Hamiltonian and integrable
systems. Lyapunov functions and stability. Invariant manifolds, including
stable, unstable, and center manifolds. Bifurcation theory and normal
forms. Nonlinear oscillations and the method of averaging. Chaotic motion,
including horseshoe maps and the Melnikov method. Applications in the
physical and biological sciences.

Fall APMA2190 S01 17855 TTh 2:30-3:50(12) "To Be Arranged"

Basic theory of ordinary differential equations, flows, and maps. Two-
dimensional systems. Linear systems. Hamiltonian and integrable
systems. Lyapunov functions and stability. Invariant manifolds, including
stable, unstable, and center manifolds. Bifurcation theory and normal
forms. Nonlinear oscillations and the method of averaging. Chaotic motion,
including horseshoe maps and the Melnikov method. Applications in the
physical and biological sciences.
Spr APMA2200 S01 26136 TTh 2:30-3:50(11) (G. Monon)

APMA 2230. Partial Differential Equations I.
The theory of the classical partial differential equations, as well as the
method of characteristics and general first order theory. Basic analytic
tools include the Fourier transform, the theory of distributions, Sobolev
spaces, and techniques of harmonic and functional analysis. More general
linear and nonlinear elliptic, hyperbolic, and parabolic equations and
properties of their solutions, with examples drawn from physics, differential
geometry, and the applied sciences. Generally, semester II of this course
concentrates in depth on several special topics chosen by the instructor.

Fall APMA2230 S01 17856 TTh 10:30-11:50(13) (H. Dong)
The theory of the classical partial differential equations, as well as the method of characteristics and general first order theory. Basic analytic tools include the Fourier transform, the theory of distributions, Sobolev spaces, and techniques of harmonic and functional analysis. More general linear and nonlinear elliptic, hyperbolic, and parabolic equations and properties of their solutions, with examples drawn from physics, differential geometry, and the applied sciences. Generally, semester II of this course concentrates in depth on several special topics chosen by the instructor.
Spr APMA2240 S01 26137 TTh 10:30-11:50(09) (Y. Guo)

APMA 2450. Exchange Scholar Program.

Fall APMA2450 S01 16079 Arranged 'To Be Arranged'
Spr APMA2450 S01 24836 Arranged 'To Be Arranged'

Finite difference methods for solving time-dependent initial value problems of partial differential equations. Fundamental concepts of consistency, accuracy, stability and convergence of finite difference methods will be covered. Associated well-posedness theory for linear time-dependent PDEs will also be covered. Some knowledge of computer programming expected.
Fall APMA2550 S01 17857 W 3:00-5:30(10) (M. Ainsworth)

APMA 2560. Numerical Solution of Partial Differential Equations II.
An introduction to weighted residual methods, specifically spectral, finite element and spectral element methods. Topics include a review of variational calculus, the Rayleigh-Ritz method, approximation properties of spectral end finite element methods, and solution techniques. Homework will include both theoretical and computational problems.
Spr APMA2560 S01 26156 W 3:00-5:30(10) (B. Keith)

APMA 2570B. Numerical Solution of Partial Differential Equations III.
We will cover finite element methods for ordinary differential equations and for elliptic, parabolic and hyperbolic partial differential equations. Algorithm development, analysis, and computer implementation issues will be addressed. In particular, we will discuss in depth the discontinuous Galerkin finite element method. Prerequisite: APMA 2550 or equivalent knowledge in numerical methods.
Fall APMA2570ES01 17858 M 3:00-5:30(03) (J. Guzman)

APMA 2610. Recent Applications of Probability and Statistics.
This course develops the mathematical foundations of modern applications of statistics to the computational, cognitive, engineering, and neural sciences. The course is rigorous, but the emphasis is on application. Topics include: Gibbs ensembles and their relation to maximum entropy, large deviations, exponential models and information theory, statistical estimation and classification, graphical models, dynamic programming, MCMC, parameter estimation, and the EM algorithm.
Graduate version: 2610; Undergraduate version: 1740. Prerequisites: APMA 1650 or equivalent, programming experience, strong mathematics background, APMA 1200 or APMA 1690 or similar courses recommended. MATH 1010 or equivalent is recommended for APMA 2610.
Spr APMA2610 S01 26152 MWF 11:00-11:50(04) (S. Geman)

APMA 2630. Theory of Probability I.
Part one of a two semester course that provides an introduction to probability theory based on measure theory. The first semester (APMA 2630) covers the following topics: countable state Markov chains, review of real analysis and metric spaces, probability spaces, random variables and measurable functions, Borel-Cantelli lemmas, weak and strong laws of large numbers, conditional expectation and beginning of discrete time martingale theory. Prerequisites—undergraduate probability and analysis, co-requisite—graduate real analysis.
Fall APMA2630 S01 17859 TTh 1:00-2:20(06) (K. Ramanan)

APMA 2640. Theory of Probability II.
Part two of a two semester course that provides an introduction to probability theory based on measure theory. Standard topics covered in the second-semester (APMA 2640) include the following: discrete time martingale theory, weak convergence (also called convergence in distribution) and the central limit theorem, and a study of Brownian motion. Optional topics include the ergodic theorem and large deviation theory. Prerequisites—undergraduate probability and analysis, co-requisite—graduate real analysis.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
ARCH 1765. Pandemics, Pathogens, and Plagues in the Greek and Roman Worlds.

Terror of mass illness is nothing new; as long as there have been humans, there has been disease. These pandemics and plagues have had mortal impacts on past societies, much as contemporary plagues affect today's economies, social and political structures, and populations. This class considers disease and society in the ancient Greek and Roman worlds, beginning with the Plague of Athens around 430 BC and continuing to the outbreak of the 'first pandemic' of bubonic plague in AD 541. We will examine these case studies through archaeological material, written accounts, DNA analysis, palaeopathological reconstruction, and palaeopathological.

Fall ARCH0270 S01 18509 TTh 9:00-10:20(05) 'To Be Arranged' (T. Franconi)
Fall ARCH0680 S01 18508 MWF 11:00-11:50(16) (T. Franconi)

ARCH 1765. Pandemics, Pathogens, and Plagues in the Greek and Roman Worlds.

Terror of mass illness is nothing new; as long as there have been humans, there has been disease. These pandemics and plagues have had mortal impacts on past societies, much as contemporary plagues affect today's economies, social and political structures, and populations. This class considers disease and society in the ancient Greek and Roman worlds, beginning with the Plague of Athens around 430 BC and continuing to the outbreak of the 'first pandemic' of bubonic plague in AD 541. We will examine these case studies through archaeological material, written accounts, DNA analysis, palaeopathological reconstruction, and palaeopathological.

Spring ARCH1765 S01 26460 TTh 2:30-3:50(11) (T. Franconi)

ARCH 1900. The Archaeology of College Hill.

A hands-on training class in archaeological field and laboratory techniques. Topics include the nature of field archaeology, excavation and survey methodologies, archaeological ethics, computer technologies (such as GIS), and site and artifact analysis and conservation. Students will act as practicing archaeologists (i.e., actually dig and analyze the results!) through the investigation of local historical and archaeological sites in the College Hill area (e.g. the First Baptist Church of America and Brown University's Quiet Green).

Fall ARCH1900 S01 18650 W 3:00-5:30(10) 'To Be Arranged'


Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.


Honors students in Archaeology and the Ancient World who are completing their theses should enroll in this course in their final semester. The subject of the thesis and program of study will be determined by the needs of the individual student. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.


How does modernity construct monuments and monumental landscapes, out of the multi-temporal remnants of various pasts? How do coloniality and race shape this process? What is the role of disciplinary apparatuses, especially archaeology, classics, architecture, and history of art? How do modernist sensorial regimes, particularly technologies of vision, constitute such "significant" monuments? Exploring these key questions, this seminar takes a close and sustained look at one iconic specimen, a sacred locus of western, racialized modernity: the Acropolis of Athens.

Fall ARCH2420 S01 18650 Th 4:00-6:30(04) (Y. Hamilakis)

ARCH 2950. Intensive Readings in Ancient Language for Archaeologists.

In this course, students with some previous training in an ancient language will have an opportunity to hone their linguistic skills while reading ancient texts that are specially relevant to archaeologists. The primary purpose of the course is to prepare students to take doctoral ancient language exams and to identify weak spots in individuals' knowledge of the ancient language. Emphasis will be placed on identification and justification of morphology and syntax, as well as on reading comprehension and idiomatic translation.

ARCH 2980. Individual Reading.

Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

ARCH 2981. Thesis Research.

Individual reading for the Master's degree. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

ARCH 2982. Individual Reading for Dissertation.

Reading leading to selection of the dissertation subject. Single credit. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

ARCH 2983. Dissertation Research.

Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

ARCH 2990. Thesis Preparation.

For graduate students who are preparing a thesis and who have met the tuition requirement and are paying a registration fee to continue active enrollment.

Biography and Medicine

Biology

BIOL 0100. Living Biology at Brown and Beyond.

BIOL0100 is a first year seminar designed for aspiring biology program students. The course introduces students to the people and opportunities in Brown's Biology Program and fosters academic and soft skill development. Students will practice a range of laboratory methods used in molecular biology while examining the ways in which those methods are used in research and in the development of medical treatments. Students will hone their writing skills, learn to effectively read primary STEM literature, and consider how various disciplines in Biology come together to tackle critical global problems such as global environmental change and emerging infectious disease. BIOL 0100 is best suited for students with minimal experience in the biological sciences.

Spring BIOL0100 S01 25475 W 2:30-4:30(10) (K. Monteiro)

BIOL 0150D. Techniques in Regenerative Medicine: Cells, Scaffolds and Staining.

Regenerative Medicine, also known as Tissue Engineering, is the process of creating living, functional tissues to repair or replace native tissue or organ functions that have been lost due to disease or congenital defects. As such, it is a prominent scientific discipline that can either "stand alone" or complement material-based research efforts in the areas of device design, drug delivery, diagnostics and pharmaceuticals. Students will develop proficiencies in basic cell culture techniques, early stage tissue regeneration strategies and histochemical characterization of mammalian cell constructs. Enrollment limited to 10 first year students. Instructor permission required. Half-credit course. S/NC.

Spring BIOL0150D S01 25473 MF 1:00-2:00(10) (T. Achilli)

BIOL 0170. Biotechnology in Medicine.

Introduces undergraduates to the main technological advances currently dominating the practice of medicine. Provides an overview of the objectives, techniques, and problems related to the application of biomedical technology to the diagnosis and treatment of disease and the contemporary health care industry. Topics include: pharmaceutical development and formulation; organ replacement by prosthesis and transplantation; medical imaging; tissue engineering, therapeutic cloning, regenerative medicine; stem cells; societal, economic, and ethical issues. This course does carry Biology concentration credit.

Fall BIOL0170 S01 17115 MF 1:00-1:50(10) (T. Achilli)
Fall BIOL0170 S02 17116 Arranged(18) (T. Achilli)

BIOL 0190F. Darwinian Medicine.

Explores evolutionary explanations of why we get sick, and how this can shape, or misshape, our interpretations of medicine. Draws on evolutionary genetics, population biology, molecular biology and physiology. This course will build on evolutionary biology and then focus...
BIOL 0190F. Pride and Prejudice in the Development of Scientific Theories.
We will examine how the pace and shape of scientific progress is affected by the social/cultural context and the "personality" of the individual. We will look into how the interplay between society and the individual affects how scientific theories arise, are presented, are debated and are accepted. The course will initially focus on Charles Darwin and his theory of Natural Selection using the biography of Adrian Desmond and James Moore, "Darwin: The Life of a Tormented Evolutionist." Enrollment limited to 19 first year students.
Fall BIOL0190F S01 16283 TTh 1:00-2:20(06) (M. Tatar)

BIOL 0190R. Phage Hunters, Part I.
A research-based lab class for freshmen; both semesters are required in the sequence. Students will isolate and characterize a bacteriophage viruses found in the soil. Lab work includes isolation and purification of your own phage, DNA isolation and restriction mapping, and EM characterization of your phage. Several phages will be selected for genome sequencing over Winter Recess, and annotated in the spring. One hour of lecture/discussion, and 3 hours lab per week. Expected: AP Biology or equivalent, HS chemistry, and permission of the instructor. Students are expected to take fall and spring courses in the sequence. Enrollment limited to 19 first-year students. Instructor permission required. Admission based on review of applications in the first class. Limited to 19 freshmen.
Fall BIOL0190R S01 16191 T 4:00-6:30(07) (S. Helfand)

BIOL 0190S. Phage Hunters, Part II.
A research-based laboratory/class for freshmen; both semesters are required. Students will isolate and characterize a bacteriophage viruses found in the soil. Lab work includes isolation and purification of your own phage, DNA isolation and restriction mapping, and EM characterization of your phage. Several phages will be selected for genome sequencing and will be annotated during the second semester. Instructor permission required. Admission based on review of applications in the first class. Limited to 19 freshmen.
Fall BIOL0190S S01 16218 TTh 2:30-3:50(12) (S. Helfand)

BIOL 0200. The Foundation of Living Systems.
A broad overview of biological systems, emphasizing patterns and processes that form the basis of life. Explores essentials of biochemistry, molecular, and cellular biology and their relationship to the larger issues of ecology, evolution, and development. Examines current research trends in biology and their influence on culture. Appropriate for all students interested in biology. Serves as a gateway course to much of the intermediate and advanced curriculum. Placement tests are offered (contact Jody_Hall@brown.edu); AP scores of 4 or 5 are equivalent to BIOL 0200. One lab section and one lecture section must be concurrently enrolled in BIOL 0280. Enrollment in one lab section and one discussion section is required.
Spr BIOL0200 S01 24959 M 1:00-5:00 (A. Sobiera)
Spr BIOL0200 S02 24960 Th 2:30-6:30 (A. Sobiera)

BIOL 0285. Inquiry in Biochemistry: From Gene to Protein Function.
In this inquiry-based research course, students work in teams to formulate and test a hypothesis about how a change in genetic sequence affects enzyme function. Students will cultivate skills in scientific visualization, experimental design, data analysis, and laboratory techniques in molecular biology and biochemistry. In discussion, students will learn scientific writing through peer editing and iterative revisions to write a full scientific paper. This course is WRT designated and will prepare students for writing an honors thesis. Expected: Students have previously taken or be concurrently enrolled in BIOL 0280. Enrollment in one lab section and one discussion section is required.
Spr BIOL0285 S01 24959 M 1:00-5:00 (A. Sobiera)
Spr BIOL0285 S02 24960 Th 2:30-6:30 (A. Sobiera)

BIOL 0380. The Ecology and Evolution of Infectious Disease.
Infectious diseases remain among the leading causes of death worldwide, and this burden is disproportionately borne by children living in low- and middle-income countries. Thus management of infectious disease remains a critical intellectual challenge in the 21st century. This course will develop and apply ecological and evolutionary theory to infectious microbes (and their hosts) via the detailed examination of a number of case studies. This will be accomplished by a combination of lectures, discussions, and readings drawn mainly from the primary literature. Assessment will be based on biweekly problem sets, two midterms and one final exam. Expected: BIOL 0200, BIOL 0210 or equivalent.
Fall BIOL0380 S01 16297 MWF 10:00-10:50(14) (D. Weinreich)

BIOL 0410. Invertebrate Zoology.
A survey of invertebrate animals emphasizing evolutionary patterns and ecological relationships. Functional morphology, physiology, reproduction, development, and behavior of invertebrates will be examined. Laboratory exercises and two separate day-long field trips provide firsthand experience with the animals. Expected: BIOL 0200 or equivalent. Enrollment limited to 44. Students MUST register for the lecture section and a lab.
Fall BIOL0410 S01 16298 TTh 9:00-10:20(05) (P. Ewanchuk)

The principles, concepts, and controversies involved in the study of the distribution and abundance of plant and animal populations and their integration into natural communities. Emphasizes interactions among organisms and the hierarchical nature of ecological processes affecting individuals, populations, and communities. Expected: BIOL 0200 (or equivalent) and MATH 0090. Lectures and weekly discussion.
Spr BIOL0420 S01 25016 Th 9:00-10:20(05) "To Be Arranged"

BIOL 0430. The Evolution of Plant Diversity.
Examines the evolutionary history of plants from a phylogenetic perspective. Introduces the principles of phylogenetics and the use of phylogenetic trees to understand organismal evolution. Highlights major trends in plant evolution over the past 400 million years. Lectures survey major plant lineages, with special focus on flowering plants. Weekly labs and assignments stress basic plant anatomy and morphology, identification, and learning to recognize and appreciate the abundance, diversity, and uses of plants in daily life. Expected: BIOL 0200 (or equivalent placement).
Fall BIOL0430 S01 25021 TTh 9:00-10:20(05) (R. Kartzinel)

BIOL 0450. Evolutionary Behavioral Ecology.
An exploration of the ecological and evolutionary principles that define animal behavior in the natural world. We will focus mostly on the field of behavioral ecology, including important phenomena like avoiding predators, obtaining food, finding mates, producing offspring, living in groups, and solving problems. In doing so, we will combine ideas and principles from the disciplines of ecology, systematics, physiology, and economics.
Spr BIOL0450 S01 26108 MWF 10:00-10:50(03) (M. Fuxjager)

BIOL 0470. Genetics.
Genetic phenomena at the molecular, cellular, organismal, and population levels. Topics include transmission of genes and chromosomes, mutation, structure and regulation of the expression of the genetic material, elements of genetic engineering, and evolutionary genetics. One laboratory session and one discussion session per week. (Students should not plan to take BIOL 0470 after 1540.) Expected: BIOL 0200 (or
equivalent placement). Students will be assigned to Lab sections the first week of class. If you plan to take BIOL 470 but are also considering registering for a course that conflicts with the BIOL 470 lecture period, you may be eligible to do so by enrolling in S02, an alternative section of BIOL 470. Enrollment in this section allows students asynchronous engagement with lectures which are recorded and posted to the course Canvas page at the end of each class period. In-person participation in laboratory meetings and exams, however, are still required.

Fall BIOL0470 S01 16219 TTh 10:30-11:50(03) (M. Johnson)
Fall BIOL0470 S02 16220 Arranged(03) (M. Johnson)
Fall BIOL0470 S03 18574 Arranged (M. Johnson)

BIOL 0480. Evolutionary Biology
A broad introduction to the patterns and processes of evolution at diverse levels of biological organization. Topics covered include natural selection, adaptation, speciation, systematics, macroevolution, mass extinction events, and human evolution. Students will be given the opportunity to do their 23andMe ancestry analyses as a means of integrating the topics that span genomics to human variation. Weekly discussion sections involve active learning simulations and discussions of papers from the primary literature. Occasional problem sets involve computer exercises with population genetics and phylogeny reconstruction. Expected: BIOL 0200 (or equivalent placement).

Fall BIOL0480 S01 16300 MWF 9:00-9:50(09) (D. Rand)

BIOL 0495. Statistical Analysis of Biological Data
A first course in probability distributions and the use of statistical methods for biological data. Topics covered will include describing data, statistical inference (hypothesis tests and confidence intervals), analyzing associations, and methods for categorical data (contingency tables and odds ratios). Methods will be applied to data drawn from areas of biological inquiry. For statistics or related science credit in Biology programs. Expected background: BIOL 0200 or equivalent, math equivalent to MATH 0100. This course is for related science credit only in Biological Sciences concentration programs.

Spr BIOL0495 S01 25008 TTh 2:30-3:50(11) (S. Ramachandran)

BIOL 0500. Cell and Molecular Biology
This course examines the structure and function of the basic unit of an organism, the cell. An experimental approach is used to examine cellular functions, ranging from gene transcription, cell division and protein secretion, to cell motility, and signal transduction. Relevance to health and disease will be considered. Expected: BIOL 0200 (or equivalent placement biology 4/5).

Spr BIOL0500 S01 24987 MW 3:00-4:20(10) (G. Valdez)

BIOL 0510. Introductory Microbiology
Introduces role of microbes in our understanding of biology at the cellular and molecular level. Focuses on microbial significance for infectious disease, public health, genetics, biotechnology, and biochemical cycles. Laboratory involves basic microbiological techniques and selection and manipulation of microbes. Expected: BIOL 0200 (or equivalent placement). Students MUST register for the lecture section, conference, and the lab. Enrollment limited to 108.

Spr BIOL0510 S01 24923 MW 8:30-9:50(02) (A. Dugan)

BIOL 0530. Principles of Immunology
Introduction to experimental and theoretical foundations of immunology. Focuses on concepts, landmark experiments and recent advances. Topics include innate and adaptive immunity; structure/function of antibody molecules and T cell receptors; regulation of immune responses through cellular interactions. Applications of concepts to medically significant issues (vaccines, transplantation, inflammation, autoimmunity, cancer, HIV/AIDS) are discussed. Interpretative analysis of experimental data is emphasized. Expected background: BIOL 0200 or equivalent placement credit.

Fall BIOL0530 S01 16196 TTh 2:30-3:50(12) (A. Dugan)

BIOL 0800. Principles of Physiology
Introduction to the function and integration of organ systems with an emphasis on human physiology. Includes basic concepts in cell and organ system physiology as well as fundamentals of modern trends in physiological science. Emphasizes the application of physical and chemical principles to organ function at both the cellular and systemic levels. Expected: BIOL 0200 or equivalent.

If you have a class conflict during the lecture time, there is an option to take the lecture asynchronously and the labs and exams synchronously. Please review the requirements for Section 02 and if you have a class conflict and are able to satisfy the synchronous requirements you may be able to take the course. The requirements are in-person lab offered at various times during the week and taking the 3 exams on the same day they are scheduled for.

Spr BIOL0800 S01 25490 TTh 10:30-11:50(09) (J. Stein)
Spr BIOL0800 S02 25491 Arranged (J. Stein)
Spr BIOL0800 S03 26345 Arranged (J. Stein)

BIOL 0940A. Viral Epidemics
This sophomore seminar will examine epidemics (outbreaks) of viral infections from a historical perspective. We will also cover current literature and up to the minute news accounts of infectious disease related outbreaks occurring around the globe. The major focus will be on virus related diseases but any microbial outbreak in the news will be explored. The seminar will cover basic aspects of microbial pathogenesis so students can gain an appreciation of microbial host interactions. Essential writing skills will also be developed. Enrollment limited to 20 sophomore students.

Fall BIOL0940A S01 16221 Th 4:00-6:30(04) (W. Atwood)

BIOL 0940D. Rhode Island Flora: Understanding and Documenting Local Plant Diversity.
This Sophomore Seminar focuses on species level identification of plants in Rhode Island and will cover the dominant plant species in each of the state’s main habitats including coastal wetlands and uplands, freshwater wetlands, peatlands, upland forests, and disturbed areas. Students will learn to identify plants using online interactive keys as well as more technical dichotomous keys and will also cover basic ecological processes in each habitat including the interaction of soils, geology, and hydrology. Materials related to plant morphology, plant taxonomy, plant evolution, understanding phyllogenetic trees, and botanical illustration. Instructor permission required.

Fall BIOL0940D S01 17392 F 1:00-5:00(01) (R. Kartzenel)

BIOL 0946. Research Design + Quantitative Methods for the Health Sciences
This is a course offered for students in one of Brown University's Biology concentrations that provides the skills necessary to identify a clinical research question from a case scenario, design a research design to answer a research question, identify the appropriate quantitative methods for the design, and interpret the results. These skills translate to almost any research experience, including honors theses and future endeavors. Students will also learn how to publish in oral and written formats across the health sciences disciplines.

Fall BIOL0946 S01 17166 W 3:00-5:30(10) (K. Monteiro)

BIOL 0960. Independent Study in Science Writing.
BIOL 0960 (fall/spring) is a half credit Independent Study in Science Writing course incorporating a nontechnical science journalism component into the Biology curriculum. Assignments may include investigative or analytical reviews, or feature articles on ethical or social impacts of new discoveries in the biological sciences. BIOL 0960 requires the submission of a formal project proposal completed collaboratively by the student and faculty mentor (see the Biology Undergraduate Education research page for details). BIOL 0960 is not for concentration credit in the biological sciences programs.

BIOL 1040. Ultrastructure/Bioimaging
This course examines microscopy and image analysis in the life sciences. Theoretical and practical aspects of microscopy will be discussed. Students will obtain hands-on experience with electron microscopy, light microscopy, fluorescence microscopy, and confocal microscopy. Students will learn to display images in 3D. Advanced undergraduates. Instructor permission required.

Spr BIOL1040 S01 24988 M 2:00-5:00 (G. Williams)

BIOL 1050. Biology of the Eukaryotic Cell
Examines organelles and macromolecular complexes of eukaryotic cells with respect to structural and functional roles in major cellular
activities. Emphasizes experimental basis for knowledge in modern cell biology using original literature, and discusses validity of current concepts. For advanced undergraduates and beginning graduate students. Complementary to BIOL 1270 and 1540. Prerequisites: BIOL 0280 or 0470 or 0500, or instructor permission. Graduate students register for BIOL 2050.

Fall BIOL1050 S01 16222 TTh 1:00-2:20(06) (S. Gerbi)

This course examines contemporary biotechnologies used to combat the predominant, worldwide problems in human health. Global health will be addressed from the scientific and engineering perspectives while integrating public health policy, health systems and economics, medical and research ethics, and technology regulation and management. This course is intended for graduate and advanced undergraduate students in biology, engineering, or related fields who have an interest in global health initiatives. Expected background: BIOL 0200 and BIOL 0800, or equivalents. Preference will be granted to graduate students in the Biotechnology and Biomedical Engineering programs. Only for related course credit in Biology. Enrollment limited to 20. Instructor permission required.

Fall BIOL1070 S01 16596 TTh 9:00-10:20(05) (J. Schell)

BIOL 1090. Polymer Science for Biomaterials.
Basic principles of polymer science and its application in medicine. Topics include basic polymerization chemistry, kinetics of polymerization and depolymerization with emphasis on bioerodible polymers, characterization of polymers by physical methods, bulk and surface properties, behavior of polymers in solutions, crystallization, gelation, and liquid crystals. Hands-on experience with polymer characterization. Expected: CHEM 0350. Enrollment limited to 25.

Fall BIOL1090 S01 16210 T 1:00-4:00(08) (E. Mathiowitz)

BIOL 1100. Cell Physiology and Biophysics.
Current topics in cell physiology, with an emphasis on membrane-mediated interactions between cells and their environment. Topics may include: ion channel structure, function and regulation; intracellular regulatory molecules; mechanisms of sensory transduction; membrane receptors and second messenger systems; vesicle secretion; and cytoskeletal regulation of cell function. Lectures, discussion, and student presentations of the current literature. Expected: BIOL 0800 or NEUR 0010. Instructor permission required. Enrollment limited to 30, and admission is based on seniority -- graduate students, seniors, then juniors. (Not for first and second-year undergraduates.) Students must request an override code through C@B.

Spr BIOL1100 S01 25492 M 3:00-5:30(13) (D. Horrigan)

BIOL 1110. Topics in Signal Transduction.
Signal transduction is one of the most rapidly developing fields in biomedical sciences. Defects in signaling pathways can be responsible for diseases such as cancer, diabetes, cardiovascular disorders and psychoses. This course offers students an overview of the molecular pathways that allow cells to receive and process signals from their external environment, with an emphasis on the emerging state-of-the-art techniques used in their study. Expected background: BIOL 0200, 0280, 0470, or 0500.

Fall BIOL1110 S01 18196 W 3:00-5:30(10) (E. Oancea)

BIOL 1120. Biomaterials.
A biomaterial is defined as a material suitable for use in medical implants that come in direct contact with patients' tissues. These include polymers, metals, and ceramics, and materials obtained from biological sources or through recombinant biotechnology. Goal: to provide comprehensive coverage of biomaterial science and technology. Emphasizes the transition from replacement to repair strategies. For advanced undergraduates and graduate students. Prerequisite: BIOL 0800 or instructor permission.

Spr BIOL1120 S01 25222 Th 4:00-6:30(17) (Y. Dingle)

BIOL 1140. Tissue Engineering
Tissue engineering is an interdisciplinary field that incorporates progress in cellular and molecular biology, materials science, and engineering, to advance the goal of replacing or regenerating compromised tissue function. Using an integrative approach, we will examine tissue design and development, manipulation of the tissue microenvironment, and current strategies for functional reconstruction of injured tissues. Expected: CHEM 0330, plus BIOL 0500 or 0800. Enrollment limited to 20. Instructor permission required.

Fall BIOL1140 S01 18197 W 3:00-5:30(10) (D. Hoffman-Kim)

BIOL 1155. Hormones and Behavior.
This class will explore the hormonal basis of animal behavior. We will assess this relationship at the molecular, cellular, physiological, and evolutionary levels, focusing on a wide range of species beyond humans. Our goal is to understand the diverse mechanisms by which hormones act throughout the animal body to mediate what individuals do in their natural environment. We will explore how selective forces shape these mechanisms to not only arrive at common behavior traits, but also unique and unusual traits that allow species to thrive in harsh or extreme environments.

Spr BIOL1155 S01 26109 MW 8:30-9:50(02) (M. Fuxjager)

BIOL 1160. Principles of Exercise Physiology.
Application of the basic principles of physiology to the study of the response mechanisms of the human body during exercise. Topics include muscle and neural control, energy metabolism, cardiovascular and respiratory effects, endocrinology, principles of training, and special topics (e.g., diving, high altitude, and microgravity). Student presentations based on scientific articles are included. Expected: BIOL 0800 or written permission of the instructor.

Fall BIOL1160 S01 17767 MWF 12:00-12:50(15) (A. Sobiera)

BIOL 1222A. Current Topics in Functional Genomics.
A technological revolution in genomics has exponentially increased our ability to gather biological data. A host of new methods and types of analysis has arisen to accommodate this dramatic shift in data collection. The broad scope of inquiry has ushered in an era of "system-wide" approaches and brute-force strategies where rare signals can be detected and studied. In this seminar we will cover papers that embody this new approach. Students typically have taken an advanced undergraduate-level course in biology.

Spr BIOL1222A S01 25471 W 3:00-5:30(10) (W. Fairbrother)

BIOL 1260. Physiological Pharmacology.
Covers the physiology of human disease (e.g., Heart failure and arrhythmia; cancer signaling pathways with a focus on breast cancer; neurological disorders such as schizophrenia and Parkinson's disease) and discusses the pharmacology of the drugs used to treat disease. A group of the most commonly prescribed drugs is discussed in terms of their fundamental modes of action and clinical importance. Expected: BIOL 0800.

Fall BIOL1260 S01 16226 TTh 10:30-11:50(13) (J. Marshall)

BIOL 1270. Advanced Biochemistry.
An advanced course in biochemistry, biochemical methods, and reading of the primary literature, featuring systematic coverage of the biochemistry of the central dogma, including DNA (replication, repair, recombination), RNA (regulation and mechanism of transcription, processing, turnover), and proteins structure, synthesis, modification, degradation, mechanisms of action, function). Expected: BIOL 0280, CHEM 0350, 0360. Graduate students register for BIOL 2270.

Fall BIOL1270 S01 16228 TTh 2:30-3:50(12) (A. Deaconescu)

Provides a conceptual understanding of molecular events underlying development of human cancer. Focused on genetic changes leading to malignant transformation of cells. Covers cell cycle control, DNA damage, mutagenesis, cancer predisposition syndromes, oncogenic viruses, tumor immunology, metastasis, cancer chemotherapy and drug resistance. Lecture plus discussion of primary literature. Prerequisites: BIOL 0280 OR BIOL 0470 OR BIOL 0500.

Fall BIOL1290 S01 16212 MW 3:00-4:20(10) (A. Zhiltovich)

BIOL 1310. Developmental Biology.
Covers the molecular and cellular events of development from fertilized egg to adult. Genetic basis of body form, cell fate specification and differentiation, processes controlling morphogenesis, growth, stem cells and regeneration will be examined. Differential gene regulation, intercellular signaling and their evolutionary conservation will be central to discussion of mechanisms governing developmental processes. Additional

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
topics: developmental plasticity, impact of epigenetic and environmental factors, and basis of disease gleaned from development biology research. Live embryos will complement and reinforce concepts covered in class. Enrollment limited to 36. Expected: BIOL 0200 (or equivalent), and one course in genetics, cell biology or embryology.

Fall BIOL1310 S01 16923 TTh 9:00-10:20(05)  (K. Wharton)

This course is an advanced, seminar-based course. Primary literature is emphasized to complement the format of extensive student seminar presentations. It is essential that students have a strong background in biology in order to gain the most from this course. The emphasis of the course is student seminar presentation and extensive discussion on the material. This is often the first opportunity for students to present/ discuss science in a seminar format. Expected background: a course in Cell Biology (e.g. BIOL 0500 or 1050), and two additional Biology courses above the introductory (BIOL 0200) level. Enrollment limited to 20.

Spr BIOL1330 S01 24995 M 3:00-5:30(13)  (G. Wessel)

Population genetics considers the genetic basis of evolution: temporal changes in the genetic composition of populations in response to processes such as mutation, natural selection and random sampling effects. Starting from first principles, this course will develop a theoretical understanding of these dynamics. We will also explore the application of these tools to genomicle-scale data in order to quantify the influence of various evolutionary processes at work in natural populations. Assessments will be based on problem sets, two midterm exams and one final exam. Prerequisites: MATH 0100 and one of BIOL 0470 or 0480, or permission.

Fall BIOL1430 S01 16285 MWF 11:00-11:50(16)  (D. Weinreich)

BIOL 1435. Computational Methods for Studying Demographic History with Molecular Data.
This course broadly covers the field of population genetics and genomics, and focuses on how inferences about demographic history can be made from genetic variation observed across populations today. The main question we will endeavor to answer in class is "How can we infer demographic history in a population using next-generation sequencing data?" Students will also learn how to apply computational tools/ methods to infer demographic history using both simulated and real DNA sequencing data.

Spr BIOL1435 S01 25012 TTh 10:30-11:50(09) "To Be Arranged"

BIOL 1465. Human Population Genomics.
An introduction to human genomics and the evolutionary forces that shape observed genetic variation across humans today. Topics will include the relationship among humans and other primates, human population genetics and genomics, and examples of the concomitant evolution of both cultural traits and domesticated organisms. Assignments include a class presentation and reviewing papers on a selected topic. Expected background: BIOL 0470 or 0480, and BIOL 0495, PHP 2500, or equivalent. Enrollment limited to 25. Instructor permission required.

Fall BIOL1465 S01 16287 TTh 2:30-3:50(12)  (E. Huerta-Sanchez)

BIOL 1470. Conservation Biology.
Conservation Biology is the scientific study of the phenomena that affect the maintenance, loss, and restoration of biological diversity. Topics covered include: 1) the impacts of global warming, species invasions, and habitat destruction on biodiversity, 2) strategies developed to combat these threats, and 3) a consideration of key economic and ethical tradeoffs. Special attention will be paid to current debate and controversy within this rapidly emerging field of study.

Fall BIOL1470 S01 17800 TTh 9:00-10:20(05)  (D. Sax)

BIOL 1520. Innate Immunity.
Innate immunity is the initial response to microbes that prevents infection of the host. It acts within minutes to hours, allowing the development of the adaptive response in vertebrates. It is the sole mechanism of defense in invertebrates such as insects. The components and mechanisms dictating this response are explored. Prerequisite: BIOL 0530. Enrollment limited to 30. Graduate students must obtain instructor permission.

Fall BIOL1520 S01 16205 MW 8:30-9:50(09)  (L. Brosay)

Students taking BIOL 1530 will explore Emergency Medicine and the many subjects that make up the practice of providing care to patients at the most critical and dire moments of their lives. We will read, discuss, and write about Trauma, Medical Malpractice, Death and Dying, Refugee and Disaster Medicine, Interpersonal Violence, and Crisis focused Medical Ethics, among others, all viewed through the lens of Emergency Medicine. You will shadow in the Emergency Department of a Trauma Center and have a debrief with your TA's in weekly meetings, where the class topics will be discussed in open forums. This class, formerly PHP1520, has created a transformative experience for more than 30 years and will continue to foster new perspectives and ideas for every student who participates.

Spr BIOL1530 S01 26273 W 3:00-5:30(10)  (B. Becker)

BIOL 1540. Molecular Genetics.
Even in this era when whole genome DNA sequencing has become routine, there are still thousands of eukaryotic genes with unknown functions, and registration order.

Spr BIOL1540 S01 24996 TTh 2:30-3:50(11)  (Y. Huang)

BIOL 1545. Human Genetics and Genomics.
This course will exemplify the power of genetically informed approaches to understanding human biology. It is intended for advanced undergraduate students and graduate students; prerequisites include BIOL0470 or equivalent. The course is based in lectures, reading material (textbook and primary literature), and in-class discussions. Course topics include: medical genetics and genomics; methods to study human genotypes and related phenotypes; industry-related topics; and ethical and societal implications of genome science. It will benefit students with career interests in basic science, medicine, biotechnology, or science policy. Enrollment is limited to 20 students; selection will be based on seniority, prerequisites, and registration order.

Spr BIOL1545 S01 24998 W 3:00-5:30(10)  (E. Morrow)

BIOL 1550. Parasitism: Biology and Disease.
Protozoan parasites influence the health of human populations in less developed countries, leading to severe human suffering and loss of economic development. Understanding the fundamental biology of these pathogens and how they are transmitted is essential for developing treatments and mitigation strategies to improve human health. Focuses on biochemical, genetic, cellular, and immunological aspects of parasite and host responses. Expected: BIOL 0470 or BIOL 0530.

This course was formerly "Biology of Emerging Microbial Diseases" Spr BIOL1550 S01 24928 MWF 11:00-11:50(04)  (C. de Graffenried)

BIOL 1555. Methods in Informatics and Data Science for Health.
The goal of this course is for students to develop a solution that uses data science and informatics approaches to address a biomedical or health challenge. This course will teach informatics and data science skills needed for public health and biomedicine research. Emphasis will be given to algorithms used within the context of biomedical research and health care, including those used in biomedical sequence analysis, electronic health records, clinical decision support, and public health surveillance. This course has been developed as a Course-based Undergraduate Research Experience (CURE), where students will gain experience with the scientific method, its application, and presentation.

Spr BIOL1555 S01 24946 M 3:00-5:30(13)  (E. Chen)

BIOL 1560. Virology.
Emphasizes the understanding of molecular mechanisms of viral pathogenesis. Begins with a general introduction to the field of virology and then focuses on the molecular biology of specific viruses that are
BIOL 1560. Survey of Biomedical Informatics.
Survey course provides overview of field of biomedical informatics.
Topics include computer science, healthcare, biology, social science. This course is designed to be complementary to BIOL 1555. Emphasis given to understanding the organization of biomedical information, effective management of information using computer technology, impact of such technology on biomedical research, education, patient care. Major aim explores the process of developing and applying computational and information science techniques for assessing current information practices, determining information needs of health care providers and patients, developing interventions or supporting clinical practice using informatics, and evaluating the impact of informatics solutions from a biomedical perspective.
Fall BIOL1560 S01 16206 MWF 9:00-9:50(09) (S. Lee)

BIOL 1565. Survey of Biomedical Informatics.
This course covers the field of evaluation of health information systems (HIS) in a range of roles and environments, in the US and worldwide. It includes topics in health information system (HIS) design and deployment, healthcare workflow, quantitative and qualitative evaluation methods and socio-technical environment for HIS. Emphasis is given to understanding the range of evaluation questions that can be asked, identifying the key stakeholders, understanding available evaluation techniques, and designing rigorous but achievable studies. Examples will include Open Source systems, medical Apps, and economic evaluation, the role of evaluation frameworks and theories, and notable HIS successes and failures. Recommended: past or concurrent enrollment BIOL 1565 or a public health course covering clinical research.
Fall BIOL1565 S01 16993 M 3:00-5:30(03) (N. Sarkar)

This course is designed to be complementary to BIOL 1555. Emphasis given to understanding the organization of biomedical information, effective management of information using computer technology, impact of such technology on biomedical research, education, patient care. Major aim explores the process of developing and applying computational and information science techniques for assessing current information practices, determining information needs of health care providers and patients, developing interventions or supporting clinical practice using informatics, and evaluating the impact of informatics solutions from a biomedical perspective.
Fall BIOL1575 S01 16216 TTh 1:00-2:20(06) (H. Fraser)

BIOL 1600. Development of Vaccines to Infectious Diseases.
Provides background steps involved in vaccine development, from conceptualization to production to deployment. Considers infectious diseases and associated vaccines in context of community health. Appropriate for students wanting to gain an understanding of vaccine science. Provides a foundation for advanced courses in immunology and infectious disease, biomedical research, or medical/graduate studies. Activities include a weekly section meeting for discussion of relevant primary literature, and a final project of the student’s choice in the form of an in-class presentation, a research paper or an approved alternative format. Expected: BIOL 0200 or equivalent placement; BIOL 0530, and at least one additional biology course.
Fall BIOL1600 S01 24933 MW 3:00-4:20(10) (L. Beura)

BIOL 1610. Experimental Neurobiology.
Intensive laboratory experience in neuroscience appropriate for students with basic background in Neurobiology. Learn and employ the classical neurophysiological techniques of extracellular recording, intracellular recording and receptive field mapping using a variety of animal species. Experiments will include recording of sensory signals in the cockroach leg; frog sciatic nerve and sciatic nerve/muscle preparation; intracellular recording of neurons in Aplysia; receptive field mapping in frog skin; and visual field mapping in the frog tectum. Instruction on and practice of effective science writing is another component to this course. Labs are supplemented by informal lectures. Enrollment limited to 18. Please request override through C@B. Overrides will not be given after the first course meeting.
Spr BIOL1610 S01 26488 W 1:00-6:00 (J. Stein)

BIOL 1650. Structure of the Nervous System.
Combined lecture and laboratory course on the anatomy of the central nervous system. Lectures survey the circuitry of the major neural systems for sensation, movement, cognition, and emotion. Laboratory exercises (Mon. 10:30-12:30) include brain dissections, microscopy of neural tissue, and discussion of clinical cases. Prerequisites: NEUR 0010, NEUR 1020, and NEUR 1030. Please request an override through C@B. Please keep in mind that decisions on overrides may not be made until the first meeting of the course.
Fall BIOL1650 S01 18518 TTh 2:30-3:50(12) (D. Berson)
BIOL 1970A. Stem Cell Biology
Senior seminar course will provide an interactive forum by which up to twenty seniors (and qualified juniors with permission) will explore the biology of stem cells from their humble beginnings in the embryo to their potential use in regenerative medicine. The potency and regulation of embryonic and adult stem cell populations derived from diverse organisms will be contrasted with laboratory-derived human stem-like cells for biomedical applications. Critical reading of classical and modern literature in the field of stem cell biology will form the basis of student-led presentations, papers and ethical forums. Expected: biochemistry, genetics and/or cell biology. Instructor permission. Fall BIOL1970A S01 16232 M 2:00-4:30(01) (R. Freiman)

BIOL 2000C. Molecular Recognition and Signaling in Self and Non-self Interactions.
This course will cover cell signaling mechanisms that allow discrimination between self and non-self interactions in various biological contexts. Self/ non-self signaling pathways from several model systems will be examined and their relevance to development and defense will be considered. Topics will include signaling in intra- and inter-species reproductive interactions, signaling in the establishment of symbioses, signaling upon predator attack, signaling in pathogen interactions, and co-evolution of pathogenic and resistance effectors. After one introductory lecture/discussion session led by the instructors, the remaining meetings will be student led and will focus on current primary literature. Open to advanced undergraduates with appropriate coursework. Spr BIOL2000C S01 25364 W 3:00-5:30(10) (M. Johnson)

BIOL 2010A. Introduction to Molecular Research in the Life Sciences.
In this practical skill-building course, entering PhD students in the Molecular Biology, Cell Biology, and Biochemistry Graduate Program (MCBGP) will participate in an immersive laboratory experience. Students will practice foundational molecular methods for analysis of nucleic acids and proteins. Students will also develop key professional skills including workflow and time management, record keeping, experimental rigor and reproducibility, working in a team, and communication of experimental results. In addition, students will learn about experimental technologies and model organisms used in the molecular life sciences through interactive modules led by MCBGP trainer laboratories. Enrollment is restricted to first-year MCBGP PhD students. Fall BIOL2010A S01 16233 MTThF 10:30-12:00(16) (K. Mowry)

BIOL 2010B. Introduction to Data Science in Molecular Biology.
In this course, second year PhD students in the Molecular Biology, Cell Biology, and Biochemistry Graduate Program (MCBGP) will learn about the basic methodologies to analyze and interpret omics datasets. This course combines lectures with hands-on workshops on data science applied to molecular research for the analysis of nucleic acids and proteins. Student will acquire knowledge of the data generated by modern molecular biology, and of the computational methods used to analyze and interpret these datasets. The hands-on workshop will teach students how to utilize the state-of-the-art computational workflows to create reproducible pipelines for data analysis. Students will also learn the best practices in data management, organization and sharing, with a focus on the big data generated by modern sequencing techniques in the life sciences. Enrollment is restricted to second year MCBGP PhD students. This is a half credit course. Spr BIOL2010B S01 25001 T 10:00-1:00 (N. Neretti) Spr BIOL2010B S02 25365 T 10:00-1:00 (N. Neretti)

This course, taken the second semester, goes in depth into the numerous strategies in biotechnology. Significant differences in the strategies of small companies versus large companies, and device companies versus drug companies will be discussed with ample use of biotechnology case studies. At the end of this course, the successful student will: Understand the process of managerial decision making in the pharma/biotech industry Understand the basic principles of Decision Science, the application of quantitative analysis (modeling) to inform managerial decision making Gain exposure to basic frameworks and tools used by management consultants to define strategic options Spr BIOL2018 S01 25223 M 5:00-7:30 (Y. Jong)

This course provides a comprehensive overview of the primary functional roles and steps involved in developing and commercializing a novel technology/scientific breakthrough within the biotechnology industry. This course is particularly suitable for students interested in pursuing a career within a biotechnology company, or for those interested in developing an in-depth knowledge of how the science of biotechnology becomes real world products. Pre Requisites: Foundations of Living Systems (BIOL0020), Principles of Physiology (BIOL0080), and Principles of Economics (ECN0110)/equivalent or instructor's permission is required. Fall BIOL2020 S01 17120 Th 5:00-7:30(04) (E. Huang)

BIOL 2030. Foundations for Advanced Study in the Life Sciences.
BIOL2030 is a graduate-level course focused on multidisciplinary approaches to biological questions. The mechanisms and regulation of basic cellular processes involving nucleic acids (synthesis, structure, maintenance and transmission) and proteins (synthesis, maturation, function) and integration of those processes into more complex circuits (signaling, cell cycle control, development) will be considered with examples from the primary scientific literature. There are no prerequisites for this course. Enrollment is limited to graduate students. BIOL2030 is required for Ph.D. students in the MCB Graduate Program. All other students must obtain instructor permission. Fall BIOL2030 S01 16234 16597 9:00-10:20(05) (A. DeLong)

BIOL 2040. Ultrastructure/Bioimaging.
This course examines microscopy and image analysis in the life sciences. Theoretical and practical aspects of microscopy will be discussed. Students will obtain hands-on experience with electron microscopy, light microscopy, fluorescence microscopy, and confocal microscopy. Students will learn to display images in 3D. For graduate students and advanced undergraduates. Instructor permission required. Spr BIOL2040 S01 24989 M 2:00-5:00 (G. Williams)

BIOL 2050. Biology of the Eukaryotic Cell.
(Undergraduate students should register for BIOL 1050.) Fall BIOL2050 S01 16224 TTh 1:00-2:20(06) (S. Gerbi)

BIOL 2075. Evaluation of Health Information Systems.
This course covers the field of evaluation of health information systems (HIS) in a range of roles and environments, in the US and worldwide. It includes topics in health information system (HIS) design and deployment, healthcare workflow, qualitative and quantitative evaluation methods and socio-technical environment for HIS. Emphasis is given to understanding the range of evaluation questions that can be asked, identifying the key stakeholders, understanding available evaluation techniques, and designing rigorous but achievable studies. Examples will include Open Source systems, medical Apps, and economic evaluation, the role of evaluation frameworks and theories, and notable HIS successes and failures. Fall BIOL2075 S01 16217 TTh 1:00-2:20(06) (H. Fraser)

BIOL 2089. The Importance of Intellectual Property in Biotechnology.
This course delves into the various roles of intellectual property in biotechnology. In addition to providing a solid foundation in the fundamentals of intellectual property, the course will use case studies in biotechnology to explore in depth the interplay between specific scientific breakthroughs and intellectual property. An understanding of the science of biotechnology is critical for advanced understanding of the value and possibilities of biotechnology intellectual property. Fall BIOL2089 S01 16597 W 4:00-6:30(10) (D. Holmander)

BIOL 2135. Pharmacokinetics and Drug Design.
Consists of the absorption, distribution, metabolism, and elimination of drugs. These factors, including dosage, determine the concentration of drugs at its sites of action, and intensity of effects. Will examine models describing the relationship between plasma drug concentrations and therapeutic drug effect. Will acquire biologic sampling techniques, analytic methods for measurement of drugs and metabolites, and procedures facilitating data used in designing drugs and dosage regimen. Prerequisite: BIOL 0800 or equivalent. Enrollment limited to 20. Preference given to graduate students in Biotechnology and BME, especially Masters students. Graduate students (PhD and ScM) from other programs enroll if permission of instructor is granted.
BIOL 2145. Molecular Targets of Drug Discovery.  
This course emphasizes the role of cell physiology in the identification of drug targets and the development of novel drugs. Specific protein drug targets such as G-protein coupled receptors will be examined in detail from identifying a target to development of drugs for that target and the physiological consequences. Prerequisite: BIOL 0800. Enrollment limited to 20. Preference is given to graduate students in Biotechnology and BME, especially Masters students. Graduate students from other programs may enroll if permission of the instructor is granted. Students must request an override code through C@B.

Fall BIOL2145 S01 25439 T 10:00-12:30 (D. Horrigan)

Focused on the effective dissemination of scientific information in biological and biomedical research disciplines. Students will develop the skills necessary to effectively communicate scientific ideas, experiments, and results relating to their PhD dissertation projects through activities common to the profession including writing a grant proposal and presenting research work orally. Each of the activities will be dissected into key components and developed through interactive discussions and peer review. Required for most second-year PhD students in the MCB and Computational Biology Graduate Program. Other qualified PhD students may enroll with instructor's permission.

Fall BIOL2150 S01 16235 Arranged (G. Valdez)
Fall BIOL2150 S02 16236 W 2:00-5:30(01) (S. Ramachandran)

BIOL 2167. In Vitro Models for Disease.  
This course will use case studies to examine high burden diseases, their pathophysiology, treatment, and the models used to study the disease. Literature will be used to discuss the current models for the disease and the associated limitations of each of these models. The course will also cover the use of animals in research and how new in vitro models could be used to decrease their use. This course is intended for graduate students in biology, engineering, or related fields. Prerequisites: BIOL 0200 and 0800, or equivalent. Enrollment limited to 20 graduate students.

Spr BIOL2167 S01 25495 M 10:00-12:30 (J. Schell)

BIOL 2170. Molecular Pharmacology and Physiology.  
Fundamental concepts in pharmacology and physiology from the cellular/molecular level to organ systems. Required of first-year graduate students in Molecular Pharmacology and Physiology. Students must request an override code through C@B.

Spr BIOL2170 S01 25494 MWF 10:00-11:30 (D. Horrigan)

BIOL 2180. Experiential Learning Industry, ELI.  
Experiential Learning in Industry is restricted to biomedical engineering (BME) Sc.M. and biotechnology (Biotech) Sc.M. students, permission also required. The course is an extended in-depth learning experience in an industry environment related to the discipline of BME and Biotech. Industry environments include: medical device, pharmaceutical or biotechnology and industries that provide BME and Biotech relevant services to the aforementioned companies including patent law, licensing, regulatory and consulting. Students will pursue Experiential Learning in Industry during one summer plus one semester or during two semesters for which they will receive credit towards their degree. This course is restricted to BME and Biotech Masters students only. Students must have successfully completed the first year of the BME Masters Program. Slots are limited so permission is required.

Fall BIOL2180 S01 16598 Arranged (J. Schell)
Spr BIOL2180 S01 25224 Arranged (J. Schell)

BIOL 2220. Topics in Signal Transduction.  
Signal transduction is one of the most rapidly developing fields in biomedical sciences. Defects in signaling pathways can be responsible for diseases such as cancer, diabetes, cardiovascular disorders and psychoses. This course offers students an overview of the molecular pathways that allow cells to receive and process signals from their external environment, with an emphasis on the emerging state-of-the-art techniques used to study signal transduction events. The course will cover the basic molecular steps of receptor-mediated pathways used in signal transduction and a series of applications that will allow students to understand the complexity of this rapidly developing field of research. We will discuss new ideas, mechanisms of disease, and unsolved problems in signal transduction primarily through reading and critical analysis of recent primary literature. Expected background: BIOL 0200, 0280, 0470, or 0500 or other classes that cover similar content.

Fall BIOL2220 S01 18511 W 3:00-5:30(10) (E. Oancea)

BIOL 2222B. Current Topics in Functional Genomics.  
A technological revolution in genomics has exponentially increased our ability to gather biological data. A host of new methods and types of analysis has arisen to accommodate this dramatic shift in data collection. The broad scope of inquiry has ushered in an era of “system-wide” approaches and brute-force strategies where rare signals can be detected and studied. In this seminar we will cover papers that embody this new approach. Students typically have taken an advanced undergraduate-level course in biology.

Spr BIOL2222B S01 25472 W 3:00-5:30(10) (W. Fairbrother)

BIOL 2230. Biomedical Engineering and Biotechnology Seminar.  
Biomedical engineering and biotechnology are interdisciplinary fields that incorporate progress in biomedical sciences, the physical sciences, and engineering. To achieve success in these fields requires facility with interdisciplinary oral communication – this is the specific and practical focus of this course. Each week a doctoral student in the Biomedical Engineering and Biotechnology Graduate Programs will give research presentations and receive feedback from the audience to help improve their public speaking skills.

Fall BIOL2230 S01 16214 T 4:30-7:00(04) (E. Darling)

BIOL 2240. Biomedical Engineering and Biotechnology Seminar.  
See Biomedical Engineering and Biotechnology Seminar (BIOL 2230) for course description.

Spr BIOL2240 S01 24945 T 4:00-6:30(16) (J. Morgan)

BIOL 2260. Physiological Pharmacology.  
The objective of this course is to present drugs in the context of the diseases they are used to treat. A list of the Common medically prescribed drugs will be discussed in terms of their fundamental modes of action and clinical importance. Pertinent background biochemistry, physiology, and pathology is provided, e.g., the electrophysiology of the heart is discussed as a background to anti-arrhythmic drugs. Course is relevant for students interested in medicine journalism, law, government, precollege teaching, biomedical research, and pharmacy. Expected: background in physiology.

For graduate students ONLY register for BIOL 2260 (enrollment limit 15); all others BIOL 1260.

Fall BIOL2260 S01 16922 TTh 10:30-11:50(13) (J. Marshall)

BIOL 2270. Advanced Biochemistry.  
(Undergraduate students should register for BIOL 1270.)

Fall BIOL2270 S01 16229 TTh 2:30-5:50(12) (A. Deaconescu)

BIOL 2310. Developmental Biology.  
Covers the molecular and cellular events of development from fertilized egg to adult. Genetic basis of body form, cell fate specification and differentiation, processes controlling morphogenesis, growth, stem cells and regeneration are examined. Differential gene regulation, intercellular signaling and evolutionary conversation are central to discussion of mechanisms governing developmental processes. Additional topics: developmental plasticity, impact of epigenetic and environmental factors, and basis of disease gleaned from developmental biology research. Live embryos complement and reinforce concepts covered in class. Expected: BIOL0200 (or equivalent), and one course in genetics, embryology, cell biology or molecular biology. Enrollment limited to 36. (Undergraduate students register for BIOL 1310.)

Fall BIOL2310 S01 16025 TTh 9:00-10:20(05) (K. Wharton)

BIOL 2350. The Biology of Aging.  
Aging is a fundamental biological process. It is the major risk factor for age-related diseases such as cancer, cardiovascular disease, stroke, osteoporosis, arthritis and Alzheimer’s, just to name a few. As life expectancy has increased in the 20th century, these diseases have become the leading causes of death. Recent research has identified universal mechanisms that regulate organismal aging and impact all organ systems. Several gene networks that can regulate the rate of aging and the incidence of age-related diseases have already been discovered. These mechanisms are conserved throughout evolution and many key insights...
BIOL 2430. Topics in Ecology, Evolution and Organismal Biology. Current literature in ecology, behavior, and evolutionary biology is discussed in seminar format. Topics and instructors change each semester. Representative topics have included: structuring of communities, biomechanics, coevolution, quantitative genetics, life history strategies, and units of selection. Expected: courses in advanced ecology and genetics.

Fall BIOL2430 S01 16289 M 3:00-5:30(07) 'To Be Arranged'
Fall BIOL2430 S02 17398 F 1:30-4:00(07) 'To Be Arranged'

BIOL 2440. Topics in Ecology, Evolution and Organismal Biology. See Topics In Ecology And Evolutionary Biology (BIOL 2430) for course description.

Spr BIOL2440 S01 25025 M 3:00-5:30(13) 'To Be Arranged'
Spr BIOL2440 S02 26272 F 1:30-4:00 'To Be Arranged'

BIOL 2450. Exchange Scholar Program.

Fall BIOL2450 S01 16083 Arranged 'To Be Arranged'
Fall BIOL2450 S02 16084 Arranged 'To Be Arranged'
Spr BIOL2450 S01 24839 Arranged 'To Be Arranged'

BIOL 2528. Innovation and Commercialization in Medical Devices, Diagnostics, and Wearables.

This course provides a comprehensive overview of concepts and steps involved in developing and commercializing novel technology/scientific breakthroughs for medical devices, diagnostics and wearables. This course is particularly suitable for students interested in pursuing a career within a medical device segment, or creating innovation-based companies, as well as for those interested in developing an in-depth knowledge of evolution of medical devices from research concepts to products in the market.

Spr BIOL2528 S01 25225 Th 9:30-12:00 (M. Analoui)

BIOL 2540. Molecular Genetics.

Even in this era when high throughput genome DNA sequencing has become routine, there are still thousands of eukaryotic genes with unknown functions. Genetic screens for mutations that alter pathways of interest remain the premier approach to understanding gene function in the context of the organism. In Molecular Genetics students will learn the key concepts involved in designing and interpreting genetic screens using the powerful tools available in model animal, plant, and fungal organisms. Students will also learn how to understand and analyze results presented in the primary scientific literature. Furthermore, students will gain an appreciation of how the field of genetics has changed through discoveries and technological advances made over the past 50 years. Undergraduate students should register for BIOL 1540.

Spr BIOL2540 S01 24997 Th 2:30-3:50(11) (Y. Huang)

BIOL 2545. Human Genetics and Genomics.

This course will exemplify the power of genetically informed approaches to understanding human biology. It is intended for advanced undergraduate students and graduate students; prerequisites include BIOL0470 or equivalent. The course is based in lectures, reading material (textbook and primary literature), and in-class discussions. Course topics include: medical genetics and genomics; methods to study human genotypes and related phenotypes; industry-related topics; and ethical and societal implications of genome science. It will benefit students with career interests in basic science, medicine, biotechnology, or science policy. Enrollment is limited to 20 students; selection will be based on seniority, prerequisites, and registration order.

For up-to-date course information please visit Courses@Brown.edu (https://cas.brown.edu).
Neuroscience
NEUR 1530 Communication in the Brain: What We Know and How We Know It
Spring 2024
The following courses may be taken for concentration credit. Please see the sponsoring department for the time and location of each course.

Environment Science
ENVS 0490 Environmental Science in a Changing World

Medical Education

For students enrolled in the Primary Care-Population Medicine program at Alpert Medical School, this course is structured to allow students to conduct research focused on population health with a mentor at Brown University.

Neuroscience

NEUR 0010. The Brain: An Introduction to Neurosciecnce.
Introduction to the mammalian nervous system with emphasis on the structure and function of the human brain. Topics include the function of nerve cells, sensory systems, control of movement and speech, learning and memory, emotion, and diseases of the brain. No prerequisites, but knowledge of biology and chemistry at the high school level is assumed. Please register for any one of the evening recitation sections irrespective of the meeting time listed. Time conflicts will be resolved after classes start.
Fall NEUR0010 S01 17637 TTh 1:00-2:00(06) (M. Paradiso)

NEUR 0680. Introduction to Computational Neurosciecnce.
An introductory class to computational neuroscience. Students will learn the main tools of the trade, namely differential equations, probability theory and computer programming, as well as some of the main modern neural-modeling techniques. Assignments will include the writing of simple Matlab code.
Fall NEUR0680 S01 17961 TTh 6:40-8:00PM(02) (L.Bienenstein)

NEUR 1020. Principles of Neurobiology.
A lecture course covering fundamental concepts of cellular and molecular neurobiology. Topics include structure of ion channels, synaptic transmission, synaptic development, molecular mechanisms of synaptic plasticity, learning and memory and neurological diseases. Prerequisite: NEUR 0010. Strongly recommended: BIOL 0200 or equivalent.
Spr NEUR1020 S01 25998 TTh 9:00-10:20(05) (C. Aizenman)

NEUR 1030. Neural Systems.
This course examines key principles that underlie the function of neural systems ranging in complexity from peripheral receptors to central mechanisms of behavioral control. Prerequisite: NEUR 0010 or the equivalent. First year and Graduate students require instructor approval.
Fall NEUR1030 S01 17650 MWF 10:00-10:50(11) (M. Linden)
Fall NEUR1030 S02 17651 MWF 11:00-11:50(11) (M. Linden)

NEUR 1440. Mechanisms and Meaning of Neural Dynamics.
We humans can shift our attention, perceive new objects, make complex motions, and adjust each of these behaviors within fractions of a second. Neurons and systems of neurons vary in their activity patterns on millisecond to second time scales, commonly referred to as "neural dynamics." This course addresses mechanisms underlying this flexibility and its potential meaning for information processing in the brain. The course integrates biophysical, computational, single neuron and human studies. In addition to lectures and readings, students will learn how to build computational models to simulate neural dynamics at various scales from single neurons to networks, using Matlab and the Human Neocortical Neurosolver. Computational modeling will be taught hands-on in an interactive lab session each week. Please request override through Courses@Brown.
Fall NEUR1440 S01 17658 TTh 2:30-3:50(12) (S. Jones)

NEUR 1510. Neurotechnology: Molecular Tools and Methods for Neurobiology.
New tools are transforming Neurobiology, both in the way experiments are being done and the questions they are addressing. New methods of observation and analysis are enhancing our understanding of the complex workings of the brain. This course is unique in helping students become critical thinkers about choosing the right toolset for different neuroscience questions at both the systems and molecular levels. We will also examine how new molecular tools are developed and evolve to address fundamental questions about how our brain. In many ways, neurotechnology, new methods, and molecular tools open the way for new discoveries in neuroscience. Course is geared towards neuroscience, biomedical engineering, biology and others.
Fall NEUR1510 S01 17659 MW 10:30-11:50(16) (A. Abdelfattah)

NEUR 1530. Communication In the Brain: What We Know and How We Know It.
Neurons communicate through the thousands of synapses they form. In this seminar-style course, we will explore the cellular and molecular underpinnings of synaptic transmission. We will then examine how synapse number and function can be modulated to shape circuit function during development, learning & memory formation, and in response to perturbations. We will develop scientific thinking skills and an understanding of experimental approaches in modern neuroscience by focusing on how the field investigates synaptic transmission and plasticity. All readings are from primary literature. Please request override through C@B.
Fall NEUR1530 S01 17660 TTh 10:30-11:50(13) (K. O'Connor-Giles)

NEUR 1540. Neurobiology of Learning and Memory.
Exploration of learning and memory from the molecular to the behavioral level. Topics will include declarative and procedural memory formation and storage, associative and non-associative learning, cellular and molecular mechanisms for learning, and disorders affecting learning and memory. Examples will be drawn from numerous brain areas and a variety of model systems, including humans. Students will gain experience interpreting experiments from primary literature. Prerequisite: NEUR 1020.
Spr NEUR1540 S01 26006 TTh 10:30-11:50(09) (M. Linden)

NEUR 1560. Developmental Neurobiology.
The course will explore core concepts of developmental biology in the context of the developing nervous system. Topics will include: neuronal specification, cell migration, axon guidance, synapse formation, and neural plasticity. Students will gain experience with the primary literature and learn about cellular and molecular mechanisms of brain development and the tools and model organisms used to study them. Request override through C@B. The decision will be made based on a variety of factors including: seniority, concentration requirement, etc.
Spr NEUR1560 S01 26010 W 3:00-5:30(10) (A. Jaworski)

NEUR 1600. Experimental Neurobiology.
Please request an override in C@B to get on the waitlist. I will be in touch via email with students on this waitlist as the first class approaches.
Intensive laboratory experience in neuroscience appropriate for students with basic background in Neurobiology. Learn and employ the classical neurophysiological techniques of extracellular recording, intracellular recording and receptive field mapping using a variety of animal species. Experiments will include recording of sensory signals in the cockroach leg; frog sciatic nerve and sciatic nerve/muscle preparation and intracellular recording of neurons in Aplysia. Instruction on and practice of effective science writing is another component to this course. Labs are supplemented by informal lectures.
Spr NEUR1600 S01 26014 W 1:00-6:00 (J. Stein)

NEUR 1630. Big Data Neuroscience Ideas Lab.
Recent technological developments have transformed neuroscience research, enabling us to generate comprehensive ‘big data’ sets that are often shared freely amongst the neuroscience community. This lab course will explore strategies to effectively use such open-sourced neuroscience data sets. Students will identify fundamental open questions in brain science and develop strategies to mine open-source sequencing, imaging and connectivity data to address their research questions.
Fall NEUR1630 S01 17661 MW 2:00-3:20(01) (A. Fleischmann)

NEUR 1650. Structure of the Nervous System.
Combined lecture and laboratory course on the anatomy of the central nervous system. Lectures survey the circuitry of the major neural systems for sensation, movement, cognition, and emotion. Laboratory exercises (Mon. 10:30-12:30) include brain dissections, microscopy of neural tissue, and discussion of clinical cases. Prerequisites: NEUR 0010, NEUR 1020,
NEUR 1740. The Diseased Brain: Mechanisms of Neurological and Psychiatric Disorders. The goals of this course are to illustrate what basic science can teach us about neurological disorders and how these pathologies illuminate the functioning of the normal nervous system. Consideration will be given to monogenic diseases (e.g., Fragile X Syndrome, Duchenne Muscular Dystrophy and Tuberous Sclerosis) as well as genetically complex disorders, such as Autism, Schizophrenia and Alzheimer's Disease. Emphasis will be on the cellular and molecular basis of these disorders and how insights at these levels might lead to the development of therapies. Prerequisites: NEUR 1020. BIOL 0470 suggested.

Spr. NEUR1740 S01 26017 MW 8:30-9:50(02) (J. Fallon)

NEUR 1930J. C2S Neurotech: From Concept to Startup- Translating Neurotechnology. To provide an understanding of the process of translating neurotechnology concepts into applications that can benefit people with nervous system disorders. Emphasizing principles useful to (1) recognize viable neuroscience concepts that can be applied to human nervous system disorders and (2) implement the essential engineering and clinical steps to translate concepts into real world, useful solutions. This is for students interested in translational neuroscience research in academia or in entrepreneurship and commercialization of neurotech innovations. Please request override via Courses@Brown.

Fall NEUR1930JS01 17827 W 3:00-6:00(10) (J. Donoghue)

NEUR 1930L. Neurobiology of Love. The goal of this course is to explore the underlying neurobiological principles of love and attachment. Topics include the relevant brain areas, the role of sensation and perception in love and attachment; how love and attachment influence action and behavior; plasticity and learning in these systems; and relevant neurodiversity related to love and attachment. You will gain a deeper understanding of concepts and principles that apply throughout the brain. You will gain experience with primary literature and learn about the relevant experimental techniques. There will be an emphasis on how the neurobiology of love is portrayed in the popular press.

Spr. NEUR1930LS01 26026 TTh 1:00-2:20(08) (M. Linden)

NEUR 1940B. Deep Learning in Neuroethology. Critical readings class will examine neural mechanisms for natural behavior (neuroethology) through reading classic studies and following current research. The course will emphasize the application of deep learning methods to movement patterns, spatial orientation, and social communication. DeepLabCut is one of several new programs that empower students and researchers to take advantage of deep learning methods for behavioral neuroscience. The course will teach how to replace single-parameter data analysis with deep learning methods to identify underlying patterns. Prerequisites are Introductory Neuroscience (NEUR0010) and prior training in Matlab or computer programming languages. Request override through C@B.

Spr. NEUR1940BES01 26033 M 3:00-5:30(13) (J. Simmons)

NEUR 1970. Independent Study. Laboratory-oriented research in neuroscience, supervised by staff members. A student, under the guidance of a neuroscience faculty member, proposes a topic for research, develops the procedures for its investigation, and writes a report of the results of his or her study. Independent study may replace only one required course in the neuroscience concentration. Prerequisites include NEUR 0010, 1020 and 1030. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course. Permission must be obtained from the Neuroscience Department.

NEUR 2030. Advanced Molecular and Cellular Neurobiology I. Focuses on molecular and cellular approaches used to study the CNS at the level of single molecules, individual cells and single synapses by concentrating on fundamental mechanisms of CNS information transfer, integration, and storage. Topics include biophysics of single channels, neural transmission and synaptic function. Enrollment limited to graduate students.

Fall. NEUR2030 S01 17809 TTh 9:00-12:00(13) (A. Hart)

NEUR 2040. Advanced Molecular and Cellular Neurobiology II. This course continues the investigation of molecular and cellular approaches used to study the CNS from the level of individual genes to the control of behavior. Topics include patterning of the nervous system, generation of neuronal diversity, axonal guidance, synapse formation, the control of behavior by specific neural circuits and neurodegenerative diseases. Enrollment is limited to graduate students.

Spr. NEUR2040 S01 26274 TTh 2:00-3:30 (G. Barnea)

NEUR 2050. Advanced Systems Neuroscience. Focuses on systems approaches to study nervous system function. Lectures and discussions focus on neurophysiology, neuroimaging and lesion analysis in mammals, including humans. Cognitive neuroscience approaches will become integrated into the material. Topics include the major sensory, regulatory, and motor systems. Enrollment limited to graduate students.

Fall. NEUR2050 S01 17821 W 1:00-4:00(08) (T. Desrochers)

NEUR 2060. Advanced Systems Neuroscience. Focuses on cognitive approaches to study nervous system function. Lectures and discussions focus on neurophysiology, neuroimaging and lesion analysis in mammals, including humans. Computational approaches will become integrated into the material. Topics include the major cognitive systems, including perception, decisions, learning and memory, emotion and reward, language, and higher cortical function. Instructor permission required.

Spr. NEUR2060 S01 26275 MW 1:00-3:00 "To Be Arranged"

NEUR 2450. Exchange Scholar Program.

NEUR 2970. Preliminary Examination Preparation. For graduate students who have met the tuition requirement and are paying the registration fee to continue active enrollment while preparing for a preliminary examination.

Fall. NEUR2970 S01 16148 Arranged (D. Sheinberg)

Spr. NEUR2970 S01 24895 Arranged (D. Sheinberg)

NEUR 2980. Graduate Independent Study. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course. S/NC

NEUR 2990. Thesis Preparation. For graduate students who have met the residency requirement and are continuing research on a full time basis.

Fall. NEUR2990 S01 16149 Arranged (D. Lipcombe)

Spr. NEUR2990 S01 24896 Arranged (D. Lipcombe)

NEUR XLIST. Courses of Interest to Neuroscience Concentrators. Fall 2023 These courses, offered in other departments, are cross-listed with the Neuroscience Department and do not require NUCC approval to count toward the concentration for Neuroscience concentrators. Please refer to the primary department for registration details.

Biology
BIOL 1110 Topics in Signal Transduction
BIOL 1140 Tissue Engineering
BIOL 1250 Physiological Pharmacology

Program in Liberal Medical Education

PLME 0400. Introduction to Medical Illustration. This semester course explores the field of medical illustration and its many facets. Depiction of diseases, anatomy, medical practices and surgical procedures has been around since antiquity. Not only has medical illustration evolved over the centuries, it has played the role of historian, documenting the beliefs and knowledge of its time. Today, medical illustration is as present as ever despite the advent of other methods of medical documentation, including photography and videography.

Fall. PLME0400 S01 17213 MW 4:30-6:00(10) (F. Lukas)

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
PLME 0700. Communication in Health Care.
Communication is central to medical, nursing, public health and therapist practice and interpersonal relationships between patients and physicians/clinicians can be powerful curative agents. This course reviews theory and research on physician-patient communication. On-line videos, readings, discussions and exercises are enhanced by conducting and analyzing patient interviews. Appropriate for students interested in communication sciences, health psychology, health education, pre-med and other clinical training, and medical anthropology.

"Wilderness, Disasters, and Global Health" is an interdisciplinary and integrative science course that explores the provision of medical care when challenges exist with regard to transportation, communication, equipment, facility infrastructure, medication supply lines, and the affordability and availability of skilled healthcare providers. This course, with a maximum enrollment of 15, is designed for any Brown senior who is interested in the outdoors, healthcare, or a science-based field. Instructor is an emergency physician, and anyone planning to pursue a medical career will learn skills to prepare for, and respond to, emergencies in a variety of limited resource environments.

PLME 1000. PLME Senior Seminar in Scientific Medicine.
This course is an online integrative science course that will supplement the preparation of both PLME and pre-medical students for the study of medicine in the 21st century. The course will use both didactic, small-group, reflective and multiple-choice question based-approaches to explore multiple areas of medicine: firearm violence, chronic kidney disease and renal transplantation, diversity in gender and sexuality, breast cancer and palliative care, and the opioid epidemic. Woven throughout the course are essential and foundational antiracist themes critical for all entering medical students. The course is intended for seniors interested in attending medical school but will preferentially enroll PLME students. Prerequisite: PLME competency in Biology, Chemistry (inorganic and organic), Physics, and statistics. Enrollment limited to 50. S/NC mandatory.

CHEM 0100. Introductory Chemistry
Explores stoichiometry, atomic and molecular structure, chemical bonding, solutions, gases, chemical reactions, equilibria, thermodynamics. S/NC. Fall CHEM0100 S01 16834 TTh 9:00-10:20(05) (V. Colvin)

CHEM 0330. Equilibrium, Rate, and Structure.
Explores the electronic structure of atoms and molecules, thermodynamics, solution equilibrium, electrochemistry, chemical kinetics, and reaction mechanisms. To successfully register for this course, please include three components: lecture, lab, and conference. Students who previously passed 0330 lab may be excused from repeating the lab portion of the course, please register for L11 as your lab section. Required background: CHEM 0100 or AP Chemistry 4 or CHEM Placement Test 8 or IBH Chemistry.

CHEM 0350. Organic Chemistry I.
Investigates the constitution and properties of organic compounds, with considerable attention to structural motifs, isomerism and chirality, acid/base chemistry, elementary reaction mechanisms (alkene/alkyne addition, nucleophilic substitutions, eliminations, etc.) and synthetic schemes. The laboratory work comprises microscale preparative and analytical techniques fundamental to the manipulation of representative organic compounds. Prerequisite: CHEM 0330 Students must register for the main lecture section and one lab section. Students who previously passed the CHEM 0350 lab may be excused from repeating the lab portion of the course, please register for lab section L11 as your lab section.

CHEM 0360. Organic Chemistry II.
Sequel to CHEM 0350. Investigates the constitution and properties of organic compounds at a fundamental level with an introduction to physical organic, bioorganic, and synthetic organic chemistry. Laboratory work is concerned with the identification and characterization of organic compounds, including modern instrumental methods. Prerequisite: CHEM 0350.

CHEM 0400. Biophysical and Bioinorganic Chemistry.
Examines aspects of physical and inorganic chemistry relevant to biochemistry: thermodynamics of hydrophobic and hydrophilic interactions, electrically charged membranes, coordination chemistry, active and passive transport, enzyme kinetics and mechanisms, metal-based drugs, and physical methods. Prerequisite: CHEM 0360. Prerequisite or corequisite: PHYS 0040 or 0060.

CHEM 0500. Inorganic Chemistry.
Examines the chemistry of main group and transition metal elements with treatment of covalent bonding and molecular structure along with the methods of studying inorganic compounds and reactions. Prerequisite: CHEM 0360.

CHEM 0600. Preparative Chemistry Lab.
This course is designed to develop advanced skills in chemical synthesis and analysis as preparation for work in a modern synthetic chemistry research environment. Students will perform synthesis of new chemical compounds using advanced techniques including air-free Schlenk and glovebox techniques, microwave synthesis, photolabile methods, and others. Students will also learn how to characterize their synthesized compounds using 2D NMR, ESI mass spectrometry, EPR spectroscopy, and other methods. The course consists of 1 hour of lecture per week discussing various techniques and applications and 4 hours of laboratory time. This course counts for 0.5 credits.

CHEM 0980. Undergraduate Research.
Independent research in chemistry mentored by a faculty member. The student will carry out original research in chemistry or chemical education. Students should consult with their faculty mentor to discuss the selection of a research project and setting objectives for the semester. This course may be repeated for credit. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course. Instructor override required.

CHEM 0980S. Undergraduate Research - Writing Designated and Mandatory S/N.
Independent research in chemistry mentored by a faculty member. The student will carry out original research in chemistry or chemical education. Students should consult with their faculty mentor to discuss the selection of a research project and setting objectives for the semester. Students in this independent undergraduate research course will be expected to work on several scaffolded writing assignments throughout the semester. Students will receive feedback on their writing that they can incorporate into a revised version of the assignment or a future submission. Students who will not be engaged in this level of scientific writing should enroll in the traditional undergraduate research course, CHEM0980. This course may be repeated for credit. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
materials phase diagram and preparation, and solid state electrochemistry for battery, fuel cell and supercapacitor applications. Prerequisites: CHEM 0500 and 1060 or equivalents or written permission. Recommended for seniors and first-year graduate students.

Spr CHEM2320 S01 26152 TTh 10:30-11:50(09) (S. Sun)

This course examines methods for determining organic reaction mechanisms. Types of experiments introduced may include kinetics, free energy relationships, isotope effects, molecular orbital theory, spectroscopy, and product distribution analysis. Reactions typically covered include pericyclic reactions, reactive intermediates, organometallic reactions, and substitution/Substitution/Stereoselectivity. The course makes extensive use of the primary literature, with a strong emphasis on the development of effective communication strategies. Completion of CHEM0500, and CHEM1140 is strongly recommended.

Fall CHEM2410 S01 17850 TTh 1:00-2:20(06) (M. Xian)

CHEM 2420. Organic Reactions.
Study of organic reactions and reaction mechanisms. Discussion and analysis of organic transformations. Topics can include arrow pushing strategies and synthetic methods.

Spr CHEM2420 S01 26392 MW 8:30-9:50(02) (A. Basu)

CHEM 2430. Synthetic Organic Chemistry.
Methods, strategies, and mechanisms. Topics may include the chemistry of anions, cations, and radicals, concerted reactions, conformational analysis, and stereochemistry.

Spr CHEM2430 S01 26153 TTh 10:30-11:50(09) (M. Xian)

CHEM 2770. Quantum Mechanics.
The course discusses the foundations of quantum mechanics and applications to chemical systems and phenomena. Using a rigorous mathematical treatment and Dirac notation, important time-independent model systems include two-level systems, one- and three-dimensional problems and angular momentum. Elements of time-dependent quantum mechanics focus on wavepacket motions. The semester will close out with a discussion of the spin and symmetry postulates.

Fall CHEM2770 S01 17852 TTh 10:30-11:50(13) (E. Sprague-Klein)

CHEM 2780. Quantum Mechanics.
The second semester sequel of Quantum Mechanics covers many body systems and matter-radiation interactions. It starts with a discussion of the symmetry postulates of quantum mechanics, followed by applications to the electronic structure of atoms and molecules, including angular momenta, the nature of chemical bonds, the Born-Oppenheimer approximation and conical intersections as well as molecular vibrations. The semester closes out with a discussion of time-dependent perturbation theory and spectroscopy, including the quantum adiabatic theorem, as well as the theory of electron and x-ray scattering.

Prerequisite: CHEM 2770.

Spr CHEM2780 S01 26154 TTh 10:30-11:50(09) (Y. Bai)

CHEM 2870. Departmental Colloquia.
Open to first year chemistry graduate students only.

Fall CHEM2870 S01 17853 F 3:30-5:30(11) (L. Wang)
Spr CHEM2870 S01 26155 F 3:30-5:30 To Be Arranged

CHEM 2970. Preliminary Examination Preparation.
For graduate students who have met the tuition requirement and are paying the registration fee to continue active enrollment while preparing for a preliminary examination.

Fall CHEM2970 S01 16087 Arranged To Be Arranged
Spr CHEM2970 S01 24842 Arranged To Be Arranged

CHEM 2980. Research.
Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

CHEM 2981. Research.
Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course. CHEM 2981 is mandatory S/NC.

CHEM 2990. Thesis Preparation.
For graduate students who have met the residency requirement and are continuing research on a full time basis.

Fall CHEM2990 S01 16088 Arranged To Be Arranged
Spr CHEM2990 S01 24843 Arranged To Be Arranged

CHEM XLIST. Courses of Interest to Students wishing to Study Chemistry.

Classics

What do video vixens and Foxy Brown have in common with "Witchy Woman'? These modern metaphors continue a long history of equating female sexual allure with dangers found in/or capable of subverting Nature. This course will use contemporary methodologies to make sense of similar descriptions of women found in Greco-Roman literature; how do the Greeks and Romans express a concern about gender, ethnicity, class, and/or politics using these metaphors? How do these same categories help distinguish what is "natural" from "unnatural'? To what end does this discourse about women and nature affect law, public space, or other aspects of "civilization"?

Fall CLAS0765 S01 18596 TTh 9:00-10:20(05) (S. Eccleston)

CLAS 0900. Greek Mythology.
"What of these things goes now without disaster?"-Aeschylus, Agamemnon
This online course is an introduction to Ancient Greek mythological traditions. Topics include the Olympian gods; 'culture heroes" (e.g. Heracles), Homer and the Trojan Cycle of myths; mythical traditions about the families of Oedipus and Agamemnon; etc. We will conclude with an investigation of ancient mythical scholarship and skeptical views of myth in antiquity. Throughout we will be considering myth's relationship with literature, visual culture, and religion. The class focuses on the ancient sources, with some secondary readings in mythological and cultural theory and glances at modern engagements with Greek myth.

Fall CLAS0900 S01 18593 MWF 1:00-1:50(08) To Be Arranged

CLAS 1120B. Epic Poetry from Homer to Lucan.
Traces the rich history and manifold varieties of the genre of epic poetry in the literatures of ancient Greece and Rome beginning with Homer's iliad and Odyssey (VII c. B.C.) and ending with Lucan's Civil War (I. c. A.D.). Masterpieces such as Virgil's Aeneid and Ovid's Metamorphoses are included. Original sources read in translation.

Fall CLAS1120B S01 18589 MWF 11:00-11:50(16) (P. Nieto Hernandez)

CLAS 1120N. Games and Spectacles of Ancient Greece and Rome.
Will examine games and spectacles of the ancient Greek and Roman worlds, from the early Olympic contests to the popular chariot races of late antiquity. By using a variety of sources, including archaeological evidence, we will explore not only the historical development of sports in the classical world, but also its ongoing political, social, and cultural importance. By seeking to understand both participants and spectators, we also hope to connect the significance of games to other facets of Greco-Roman society, including women and religion. We will not only discuss the limitations of the primary sources, but also make relevant comparisons to the role of sports in contemporary society.

Fall CLAS1120N S01 18586 MWF 10:00-10:50(14) To Be Arranged

CLAS 1179. Reception of Latin in Americas.
This course will explore the reception of Latin in the Americas.

Fall CLAS1179 S01 18914 MWF 2:00-2:50(01) To Be Arranged

CLAS 1970. Special Topics.
Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

Section numbers vary by instructor. Please check banner for the correct section number and CRN to use when registering for this course.

42 Course Descriptions

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
CLAS 2011B. Horace’s Carmen Saeculare and its contexts.
This seminar focuses on Horace’s Carmen Saeculare, a Latin hymn commissioned by the Roman princeps Augustus for choral performance at the Ludi Saeculares in 17 B.C.E. We will read the poem both in the context of Horace’s lyric poetry, considering it philologically and in regard to earlier and contemporary Greek and Latin poetry, and as an orally-presented, public hymn produced for a specific performance. We will also examine the significant (and exceptionally rich) epigraphic and other scholarly evidence related to the poem’s religious and historical context, and we will look at its reception in later poetry.

Fall CLAS2011B S01 18684 M 3:00-5:30(03) (J. Debrouh)

CLAS 2450. Exchange Scholar Program.
Fall CLAS2450 S01 16909 Arranged ‘To Be Arranged’
Spr CLAS2450 S01 24844 Arranged ‘To Be Arranged’

CLAS 2822M. Thinking through Comparison: Han and Roman Empires.
This seminar introduces students to comparative methods in the study of antiquity, with a focus on Han China and the Roman Empire. We will consider how and why we do comparative history, through the examples of the Han Chinese and Roman Empires. Sessions will consider existing examples of comparative work on these two ancient cultures from the eighteenth century to today, asking what questions the scholars involved were asking and what methodologies they brought to bear to answer them. Using a balance of ancient and modern readings, we will ask what the purpose of comparison is and what methodologies comparisons demand, as well as conducting our own comparative research informed by the most recent scholarship on both civilizations. No knowledge required of ancient European languages or ancient or modern Chinese languages.

Fall CLAS2822M/S01 18672 Th 1:00-3:30 (A. Russell)

CLAS 2970. Preliminary Examination Preparation.
For graduate students who have met the tuition requirement and are paying the registration fee to continue active enrollment while preparing for a preliminary examination.
Fall CLAS2970 S01 16091 Arranged ‘To Be Arranged’
Spr CLAS2970 S01 24845 Arranged ‘To Be Arranged’

CLAS 2980. Reading and Research.
Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course. Instructor permission required.

CLAS 2990. Thesis Preparation.
For graduate students who have met the residency requirement and are continuing research on a full time basis.
Fall CLAS2990 S01 16902 Arranged ‘To Be Arranged’
Spr CLAS2990 S01 24846 Arranged ‘To Be Arranged’

CLAS XLIST. Courses of Interest to Classics Concentrators.

Greek
GREG 1010. Essentials of the Greek Language.
This is the first part of a two-semester Ancient Greek course. The purpose of the course is to develop students’ ability to read and understand Ancient Greek literary texts and to build firm foundations in terms of grammar, vocabulary and reading skills. Selections from Attic Greek authors. No previous knowledge of Greek is required.
Fall GREGK1000 S01 18588 MWF 11:00-11:50(16) (S. Kidd)

GREG 0300. Introduction to Greek Literature.
Introduction to Greek literature through intensive reading. Prerequisite: GREG 0200, GREG 0110, or the equivalent. This course focuses on translation and comprehension of Classical Greek prose. The goal is to expand your vocabulary, increase your ease with morphology, and deepen your understanding of syntax as each of these elements of the language interact with each other. The primary text will be Plato’s Symposium, in which Socrates and other guests at a drinking party consider the nature of love, ἔρως and its role in personal relationships, education, and even politics.
Fall GREGK0300 S01 18581 TTh 1:00-2:20(06) ‘To Be Arranged’

GREG 1110H. The Odyssey.
It is hard to imagine a more joyful way to acquire excellent control of Homeric Greek than by reading, in its entirety (if possible), Homer’s wonderful and captivating work, the Odyssey. Though it can be a little time-consuming initially, students quickly become familiar with the syntax and the vocabulary, and find great pleasure in immersing themselves in this thrilling masterpiece.
Fall GREGK1110H-S01 18583 MWF 9:00-9:50(09) (P. Nieto Hernandez)

GREG 1110N. Menander.
Thanks to a series of remarkable discoveries over the last century, we can now read several comedies by Menander. In this course, we shall investigate the nature of New Comedy, its typical plot structures and characters, the conditions of its performance, and its relation to the Hellenistic world in which it was composed.
Fall GREGK1110N/S01 18601 W 3:00-5:30(10) (A. Scalfuro)

GREG 1910. Special Topics.
Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

GREG 2970. Preliminary Exam Preparation.
For graduate students who have met the tuition requirement and are paying the registration fee to continue active enrollment while preparing for a preliminary examination.
Fall GREGK2970 S01 16118 Arranged ‘To Be Arranged’
Spr GREGK2970 S01 24870 Arranged ‘To Be Arranged’

GREG 2980. Reading and Research.
Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course. Instructor permission required.

For graduate students who have met the residency requirement and are continuing research on a full time basis.
Fall GREGK2990 S01 16119 Arranged ‘To Be Arranged’
Spr GREGK2990 S01 24871 Arranged ‘To Be Arranged’

Latin
LATN 0100. Essentials of the Latin Language.
An intensive two-semester approach to Latin with special emphasis on developing facility in the rapid reading of Latin literature. No previous knowledge of Latin is required.
Fall LATN0100 S01 18582 MWF 9:00-9:50(09) ‘To Be Arranged’

LATN 0300. Introduction to Latin Literature.
Introduction to Latin literature through intensive reading of major authors in prose and poetry with careful attention to grammar and style. Prerequisite: LATN 0100, 0200 or 0110 (or equivalent).
Fall LATN0300 S01 18585 MWF 10:00-10:50(14) ‘To Be Arranged’

LATN 1110Y. Latin Epistolography.
Through reading letters from different periods of Roman History, students will become more familiar not only with the ways letters negotiated Roman social, political, and intellectual networks but also how Roman authors drew on epistolary conventions to compose literature in other forms. Authors to be read may include but are not limited to Cicero, Ovid, Pliny the Younger, and Fronton.
Fall LATN1110Y/S01 18599 TTh 2:30-3:50(12) (J. Bodel)

LATN 1120D. Alcuin.
Alcuin lived a life of wide variety and accomplishment, not least as an important member of Charlemagne’s inner circle and, like many at court, he wrote widely and in multiple genres. From his enormous output this course will focus on the large collections of poetry and letters. We will attend in both gatherings to theme, tone, style, and allusivity and, where appropriate, we will ponder alternate readings in a collection that has not been edited since the late nineteenth century.
Fall LATN1120D S01 18594 MWF 2:00-2:50(01) (J. Pucio)

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
LATN 1120G. Reading Humanist Latin Texts.
The course will explore in depth some important Renaissance or ‘early modern’ works of Latin literature, many of which have not been translated into English. As well as opening up a new field of Latin writing, the course will extend general knowledge of classical literature by involving some less commonly studied ancient sources. It will also introduce some early imprints, enabling you to consider texts directly in the original form in which they first appeared.
Fall LATN1120G S01 18701 TTh 1:00-2:20(06) (A. Laird)

LATN 1970. Special Topics.
Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.
Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.
LATN 2010K. Horace’s Carmen Saeculare and its contexts.
This seminar focuses on Horace’s Carmen Saeculare, a Latin hymn commissioned by the Roman princeps Augustus for choral performance at the Ludi Saeculares in 17 B.C.E. We will read the poem both in the context of Horace’s lyric poetry, considering it philologically and in regard to earlier and contemporary Greek and Latin poetry, and as an orally-presented, public hymn produced for a specific performance. We will also examine the significant (and exceptionally rich) epigraphic and other scholarly evidence related to the poem’s religious and historical context, and we will look at its reception in later poetry.
Fall LATN2010K S01 18669 M 3:00-5:30(03) (J. Debrohun)

LATN 2970. Preliminary Exam Preparation.
For graduate students who have met the tuition requirement and are paying the registration fee to continue active enrollment while preparing for a preliminary examination.
Fall LATN2970 S01 16136 'To Be Arranged'
Spr LATN2970 S01 24886 'To Be Arranged'

LATN 2980. Reading and Research.
Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.
Instructor permission required.
LATN 2990. Thesis Preparation.
For graduate students who have met the residency requirement and are continuing research on a full time basis.
Fall LATN2990 S01 16137 'To Be Arranged'
Spr LATN2990 S01 24887 'To Be Arranged'

Modern Greek

MGRK 0300. Intermediate Modern Greek.
Develops linguistic and cultural competence and may be taken by anyone who has completed MGRK 0200 or after consultation with the instructor and/or a placement exam. It focuses on further development of the four language skills as well as knowledge and understanding of various aspects of Greek society. It employs a variety of materials, including film, digital stories, internet based sources, music, art, and literature.
Fall MGRK0300 S01 18595 TTh 9:00-10:20(05) (E. Amanatidou)

MGRK 0500. Advanced Modern Greek.
May be taken by students who have completed the previous sequences or by anyone who places successfully into the course. The course places emphasis on the improvement of writing and oral skills, via presentations, collaborative projects, conversations and assignments based on topics and texts, drawn from a variety of sources and cultural forms of expression.
Fall MGRK0500 S01 18602 'To Be Arranged' (E. Amanatidou)

MGRK 1800. In Other Words: Translating Greece.
This is an advanced undergraduate seminar that will offer students the opportunity to build on their linguistic, cultural and critical literacies, by translating from Greek into English. Over the course of the semester we will be thinking critically about texts, their ideological, historical and social coordinates and their embedded discourses of Greekness, community, diglossia, identity and gender, among others. In addition to translating from Greek into English, we will read and discuss essays on translation, in order to consider in an informed way the issues (untranslatability?) and types of decision making associated with the practice of translation.
Fall MGRK1800 S01 18603 'To Be Arranged' (E. Amanatidou)

MGRK 1910. Special Topics in Modern Greek.
No description available.

Sanskrit

SANS 0100. Elementary Sanskrit I.
This introduction to the Sanskrit language does not require prior knowledge of any language other than English. Students learn the Devanāgarī script and modes of transcription, the phonetics of Sanskrit, and an outline of most of its foundational grammar, with a goal of being able to begin reading classical Sanskrit literature in the original. Reading exercises are drawn from ancient narrative texts such as the Hitopadeśa, Devimāhātmya, and Mahābhārata.
Fall SANS0100 S01 18592 MWF 1:00-1:50(08) (D. Buchta)

SANS 0300. Sanskrit Epic Narrative.
Consolidates and extends the knowledge of Sanskrit grammar introduced in first year Sanskrit; acquaints students first-hand with basic themes of ancient Indian culture, and cultivates the reading and interpretive skills necessary to read epic and closely related Sanskrit narrative with comprehension and increased fluency. Prerequisite: SANS 0200.
Fall SANS0300 S01 18584 MWF 10:00-10:50(14) (D. Buchta)

Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.
Instructor's permission required.

Modern Greek

This course will provide an interdisciplinary approach to the science of the mind through lenses of psychology, cognitive science, cognitive neuroscience, behavioral neuroscience, computational modeling and linguistics, as uniquely represented by our department. It will focus on questions that drive the field, current state-of-the-art, and successful techniques and approaches. Questions addressed will include: What is the nature of the human mind? How do we get input from the world? How do we communicate? How do we change as infants and adults through experience? How do we make decisions and judgments? How do minds meet other minds in a social world?
Fall CLPS0010 S01 17080 MWF 10:00-10:50(14) (E. Festa)

CLPS 0050M. Playing with Words: The Linguistic Principles Behind Word Games and Puzzles.
In this course, we explore the use of language in a domain which is fairly unlike ordinary communication: the use of language in wordplay, alternate languages, games, and puzzles. At one level, understanding aspects of linguistic theory can provide insight into the internal workings of these various forms of wordplay. On another level, wordplay and puzzles often intentionally subvert the grammar and other rules of ordinary language use and therefore can provide a unique lens into typically implicit grammatical knowledge speakers possess and deploy in all domains of language.
CLPS 0100. Learning and Conditioning.

Presents classical and contemporary approaches to the study of the prediction and control of behavior. Emphasizes theories and data derived from studies of Pavlovian conditioning and instrumental learning with nonhuman animals, but also considers implications for human behavior (e.g., drug-dependent behaviors, eating disorders, behavior modification and psychopathologies). No prerequisites.

Fall CLPS0100 S01 25419 MWF 1:00-1:50(06) (R. Colwill)

CLPS 0200. Human Cognition.

Introduction to theoretical issues and empirical findings motivating controversies in human cognition. Basic issues in cognition - including attention, memory, categorization, reasoning, decision making and problem solving will be examined. Emphasis will be on experimental methods and formal theories.

Fall CLPS0200 S01 17092 MWF 11:00-11:50(16) (K. Spoehr)

CLPS 0300. Introduction to Linguistics.

The ability to speak and understand a language involves having mastered (quite unconsciously) an intricate and highly structured rule-governed system. Linguists seek to model that rule system. This course introduces students to the areas of phonetics (speech articulation and transcription), phonology (the principles that govern how sounds are put together), morphology (the principles governing word structure), syntax (the rule system governing sentence structure), and semantics (the system that relates sentences to meanings).

Fall CLPS0300 S01 17077 TTh 9:00-10:20(05) (U. Cohen Priva)

CLPS 0400. Cognitive Neuroscience.

This course provides an introduction to the neuroscientific study of cognition. Topics surveyed in the course include the neural bases of perception, attention, memory, language, executive function, emotion, social cognition, and decision making. In covering these topics, the course will draw on evidence from brain imaging (fMRI, EEG, MEG), transcranial magnetic stimulation, electrophysiology, and neuropsychology. The course will also consider how knowledge about the brain constrains our understanding of the mind.

Spr CLPS0400 S01 25428 TTh 2:30-3:50(11) (A. Shenhav)

CLPS 0450. Brain Damage and the Mind.

Brain damage in humans can produce dramatic and highly selective impairments in cognitive functioning. This course provides an overview of the major neuropsychological disorders of perception, language, memory, thought, and action. It emphasizes the development of human information processing models for understanding the cognitive deficits observed in brain-damaged patients and the implications of neuropsychological findings for models of normal cognition.

Fall CLPS0450 S01 17082 MWF 1:00-1:50(08) (W. Heindel)


This course will focus on consciousness related to visual perception, attention, memory, and cognitive control. The learning goal is to understand the neural correlates of consciousness, with an emphasis on visual consciousness. We will examine 1) basic neural mechanisms of perceptual and cognitive processing; 2) philosophical and neuroscientific models of consciousness; 3) the interaction between attention, reward, and memory and visual consciousness; 4) recent advances in research of consciousness by neuroscientific experiments with animals and humans.

Spr CLPS0550 S01 26060 TTh 10:30-11:50(09) (T. Watanabe)


An examination of children's thinking and cognitive development from infancy to early elementary school. Considers a range of topics including memory, reasoning, categorization, perception, and children's understanding of concepts such as space, time, number, mind, and biology. Major theories of cognitive development are described and evaluated in light of the available psychological data.

Spr CLPS0610 S01 25430 MWF 10:00-10:50(03) (D. Sobel)

CLPS 0700. Social Psychology.

Examines the theories, findings, and methods of social psychology. Topics include: social cognition (person perception, attitudes), social influence (cultural sources of attitudes, conformity), and social relations (aggression, altruism, prejudice). Students become better informed consumers of empirical research and acquire a new framework for interpreting social behavior. Applications to historic and current events.

Fall CLPS0700 S01 17075 TTh 1:00-2:20(06) (M. Boykin)

CLPS 0800. Language and the Mind.

Explores fundamental issues in psycholinguistics: what is the nature of language; what are its biological underpinnings; how does the mind process speech, recognize words, parse sentences, comprehend discourse; what do effects of brain injuries on language reveal about the organization of language in the mind? Syntheses of results from multiple modes of analysis – linguistic, psychological, computational, and neurophysiological – are emphasized.

Spr CLPS0800 S01 25420 MWF 2:00-2:50(07) (R. Feiman)

CLPS 0900. Statistical Methods.

A survey of statistical methods used in the behavioral sciences. Topics include graphical data description, probability theory, confidence intervals, principles of hypothesis testing, analysis of variance, correlation, and regression, and techniques for categorical data. Emphasizes application of statistical methods to empirical data.

Fall CLPS0900 S01 17062 MWF 8:30-9:50(09) 'To Be Arranged'

Spr CLPS0900 S01 25938 MW 8:30-9:50(02) 'To Be Arranged'

CLPS 0950. Introduction to programming.

This course provides an introduction to programming and computational thinking. We will use the Matlab programming language as a starting point because it is concise and easy to read. It is also one of the most popular scientific programming languages. We will then transition to Python which has now become the main programming language used in data science. The course is designed for students in psychology, cognitive science, neuroscience, and other non-computer science majors interested in learning to program and, more generally, in developing computational thinking skills. Beyond teaching specific coding skills, this course will support students' development as computational thinkers. Mastering these skills will enable students to more richly understand the cognitive, linguistic, and psychological sciences — and impact society.

Spr CLPS0950 S01 26058 MWF 12:00-12:50(01) 'To Be Arranged'

CLPS 1250. Human Factors.

The application of knowledge of human characteristics to the design of equipment, facilities, and environments for human use. Research on attention, perception, learning, and decision making will be applied to problems in various areas including: aviation, highway safety, industrial safety, consumer products, human-computer interaction, and aging. Enrollment limited to 25.

Spr CLPS1250 S01 25433 MWF 11:00-11:50(04) (K. Spoehr)

CLPS 1280B. Special Topics in Cognition: Collective Cognition.

As individuals, we know little. We overestimate our knowledge of common objects and political policies, and the depth of our arguments. But humanity has achieved great things using its mental powers. The most likely reason is that we live in a community of knowledge, guided by shared intentionality. Communities understand how things work, and individuals fail to distinguish what they know from the knowledge that resides in other people's heads. In this course, we will evaluate these claims and discuss how they constrain theorizing in cognitive science. We will draw from literatures in psychology, philosophy, and computer science.

Spr CLPS1280B S01 25429 TTh 4:30-5:30(17) (S. Sloman)

CLPS 1310. Phonology.

Examines some of the classic and current issues regarding sound structure in the world's languages and introduces the theoretical tools needed to solve them. After an introduction to articulatory phonetics and phonemic analysis, it focuses on phonological analysis of different languages, and discusses rules-based and constraint-based approaches to phonology. Implications for language learning and language change are discussed. Prerequisite: CLPS 0030.

Spr CLPS1310 S01 25417 TTh 9:00-10:20(05) (U. Cohen Priva)

CLPS 1330. Introduction to Syntax.

An in-depth investigation of natural language syntax, an intricate yet highly organized human cognitive system. Focuses primarily on the syntax of English as a means of illustrating the structured nature of a grammatical system governing sentence structure), and semantics (the system that resides in other people's heads. In this course, we will evaluate these claims and discuss how they constrain theorizing in cognitive science. We will draw from literatures in psychology, philosophy, and computer science.

Spr CLPS1310 S01 25417 TTh 9:00-10:20(05) (U. Cohen Priva)
system, but the broader question at issue is the nature of the rule system in natural language syntax. Prerequisite: CLPS 0300 (COGS 0410).
Fall CLPS1330 S01 17083 TTh 10:30-11:50(13) (P. Jacobson)

CLPS 1342. Compositional Semantics.
Model-theoretic approaches to the study of the semantics of natural languages. Develops the tools necessary for an understanding of classic formal semantic results in linguistics and in philosophy (lambda calculus, intensional logic, Montague's treatment of quantification, etc.). These tools are then applied to detailed descriptions of natural language semantics, including binding and pronouns, modification, scope, focus etc. as well as other recent developments in semantic theory. Prerequisite: some familiarity with syntax or semantics or basic set theory and logic.
Spr CLPS1342 S01 25848 TTh 1:00-2:20(08) (P. Jacobson)

CLPS 1360. Introduction to Corpus Linguistics.
The study of Linguistics relies on language production data. Language corpora contain various sources of such data, often annotated to include additional information such as syntactic, semantic and phonological properties. Such databases often complement or even replace data sources used in other disciplines. This class aims to train students in the use of some of the tools that are commonly used to access and evaluate data in linguistic corpora. Prerequisite: CLPS 0030. Enrollment limited to 25.
Spr CLPS1360 S01 25418 TTh 10:30-11:50(09) (U. Cohen Privia)

CLPS 1370. Pragmatics.
Any time we utter a sentence in conversation, the perceived meaning of that sentence interacts with the discourse context in a rich variety of ways. On the one hand, aspects of a sentence's meaning are "filled in" or enriched by the prior conversation as well as non-linguistic context. On the other hand, utterances shape the future of the conversation in various ways too. This course is an introduction to the scientific study of such phenomena. Specific topics include: presupposition, implicature, speech acts, deixis, anaphora, (in)definiteness, and information structure.
Fall CLPS1370 S01 17912 TTh 1:00-2:20(06) (S. AnderBois)

CLPS 1420. Cognitive Neuropsychology.
This foundation course in cognitive neuropsychology will explore the effects of brain damage on cognitive function. The goals of cognitive neuropsychology are to understand the effects of brain pathology within the context of modern theories of cognition, and to draw inferences about normal or intact cognitive function from patterns of dysfunction observed with brain pathology. Readings will focus on research investigations of brain damaged populations within one or more areas of cognition (e.g., perception, memory, or attention) that address topics of current relevance. Pre-Requisites: CLPS 0010 or CLPS 0040 or CLPS 0200 or CLPS 0400 or NEUR 0010. CLPS 0900 is also strongly recommended.
Spr CLPS1420 S01 25422 MW 9:00-9:50(02) (E. Festa)

CLPS 1480B. Cognitive Aging and Dementia.
This seminar examines the cognitive changes associated with normal aging and age-related dementia (e.g., Alzheimer's Disease). Topics covered will include changes in the neurocognitive systems mediating memory, perception, and attention. The course is primarily intended as an advanced seminar for junior and senior concentrators in Psychology, but is also intended for other students interested in aging and the neuropsychology of cognition. Recommended prerequisites: An introductory course in cognitive neuroscience (CLPS 0400, CLPS 0450, CLPS 0200) or permission of the instructor. CLPS 0900 or a comparable Statistics course is strongly recommended. Preference will be given to senior CLPS concentrators.
Spr CLPS1480B S01 25423 TTh 9:00-10:20(05) (E. Festa)

CLPS 1480H. Disorders of Memory.
In his 1882 treatise on Diseases of Memory, Ribot wrote that "the disorders and maladies of this faculty, when classified and properly understood, are no longer to be regarded as a collection of amusing anecdotes of only passing interest. They will be bound to be regulated by certain laws which constitute the very basis of memory and from which its mechanism is easily laid bare." In that spirit, this seminar will examine how both organic (e.g., Korsakoff syndrome, herpes encephalitis, semantic dementia) and functional (e.g., fugue, posthypnotic amnesia, multiple personality disorder) amnesias can inform our understanding of human memory. Topics covered will include changes in the neurocognitive systems mediating memory.
Spr CLPS1480H S01 25424 F 3:00-5:30(15) (W. Heindel)

CLPS 1492. Computational Cognitive Neuroscience.
We explore neural network models that bridge the gap between biology and cognition. Begins with basic biological and computational properties of individual neurons and networks of neurons. Examines specialized functions of various brain systems (e.g., parietal cortex, frontal cortex, hippocampus, ganglia) and their involvement in various phenomena, including perception, attention, memory, language and higher-level cognition. Includes a lab component in which students get hands on experience with graphical neural network software, allowing deeper appreciation for how these systems work. Prerequisites: CLPS 0040 or CLPS 0200 or NEUR 0010.
Fall CLPS1492 S01 17081 TTh 10:30-11:50(13) (M. Frank)

One of the main purposes of encoding visual information is to perform visually-guided actions to directly interact with the external world. This seminar will shed light on the behavioral and underlying neural mechanisms involved in integrating perception and cognitive processes, and converting them into action. We will also explore how visuo-motor behavior can provide a useful tool to study a wide range of conscious and unconscious cognitive processes including the current locus of attention, the nature of language representation, spatial representation of number, and high-level decision-making. Prerequisite: CLPS 0010, CLPS 0020, or NEUR 0010.
Spr CLPS1560 S01 25850 M 3:00-5:30(13) (J. Song)

CLPS 1570. Perceptual Learning.
This course will focus on perceptual learning and visual plasticity. The goal of this course is to understand the mechanisms of visual perceptual learning and visual and brain plasticity. Perceptual learning is defined as long-term performance improvement as a result of visual experiences. Enrollment limited to 20.
Fall CLPS1570 S01 17714 F 3:00-5:30(11) (T. Wataneba)

How do infant and preschoolers learn about the world? We will examine children's understanding of the physical world, psychological kinds, biological entities, number, objects, and space. Students are expected to read and comment on both empirical and theoretical primary source articles, to participate in weekly discussions, and complete a set of writing assignments. Prerequisites: CLPS 0600 (PSYC0810) or CLPS 0610 (COGS0630) or EDUC 0800.
Fall CLPS1610 S01 17091 Th 4:00-6:30(04) (D. Sobel)

CLPS 1650. Child Language Acquisition.
All normally developing children acquire language, yet there is little agreement about how this takes place. This class explores the course of language acquisition from birth to babbling and first words to the use of complex syntax, discussing philosophical, theoretical, and methodological approaches to the problem. Includes practical experience analyzing child language data. Prerequisite: CLPS 0030 (COGS 0410) or CLPS 0800 (COGS 0450), or permission of the instructor.
Fall CLPS1650 S01 17085 M 3:00-5:30(03) (R. Feinman)

CLPS 1680F. Topics in Development: The Developmental and Evolutionary Origins of Mind.
Human behavior can sometimes appear strikingly different from other animals: we create complex tools, plan for the future, and have sophisticated cultural traditions and group behaviors. What cognitive processes underlie these behaviors, and to what extent are they shared with other animals or unique to humans (and is that even the right question to ask)? What "counts" as intelligence or as having a mind? To explore these exciting questions, we will examine research and theoretical perspectives from psychology, biology, behavioral ecology and philosophy, and look at diverse aspects of learning and cognition in human and non-human primates along with a sampling of other species. Possible topics include spatial and numerical cognition, physical and causal reasoning, cooperation, communication, social learning and theory of mind, culture, morality, emotions, memory, foresight, and self-control in both human children and non-human animals.

For up-to-date course information please visit Courses@Brown.edu (https://cabs.brown.edu).
Fall CLPS1680F S01 17076 T 4:00-6:30(07) (D. Buchbaum)

CLPS 1730. Psychology in Business and Economics.
The goal of this course is to explore emerging themes at the intersection of psychological science, business, and behavioral economics. Psychologists are primarily interested in detecting limits to human rationality, whereas economics tends to proceed within the rational-actor model. In business, questions arise of how theoretical models and empirical findings related to the practice of managerial decision-making. Investigations of power and the psychological impact of money are relatively recent additions to the suite of research topics. New methodologies, such as neuro-imaging have led to advances not represented in the traditional framework of organizational psychology. Enrollment limited to 20 junior and senior Psychology and Behavioral Decision Making concentrators.
Fall CLPS1730 S01 17538 TTh 9:00-10:20(05) (J. Krueger)

CLPS 1760. The Moral Brain.
How do we learn to cooperate, help others in need, and appropriately respond after being treated unfairly? The human mind strives to resolve the competing pressures of self-interest against the greater good. By drawing upon many disciplines including philosophy, social and affective neuroscience, abnormal psychology, law, and experimental economics, this course covers topics from 18th-century philosophy to modern-day neuroscience. We will examine 1) the philosophical and epistemological foundations of moral thought, 2) the influence of emotion and contextual framing on moral action, 3) the psychopathology of immoral choice, and 4) the underlying cognitive and neurobiological processes that guide moral decision-making. Registration for this course will be determined by the faculty on the first day of class. The final class list is determined by 1) some working knowledge in cognitive neuroscience (evidence by taking at least 1 prior class in the concentration), 2) who shows up to the first class, 3) the student's year (seniority is prioritized) and 4) when people emailed the faculty member to get on the class list.
Spr CLPS1760 S01 25421 M 3:00-5:30(13) (O. FeldmanHall)

CLPS 1782. Me, Myself, and I: Exploring Senses of Self from a Multidisciplinary Perspective (COST 1082).
Interested students must register for COST 1082.
Fall CLPS1782 S01 18695 Arranged 'To Be Arranged'

CLPS 1791. Laboratory in Social Cognition.
Examines principles of experimental design and analysis in the context of classic and contemporary research in social cognition. Students replicate and extend several studies on topics such as person perception, social stereotyping, or judgment and decision making. Students will participate in the design of these studies, gather their own data, analyze them, and report the findings in oral presentations and written reports. Prerequisites: CLPS 0010 (PSYC 0010), CLPS 0700 (PSYC 0210), and CLPS 0900 (PSYC/COGS 0090). Enrollment limited to 24.
Spr CLPS1791 S01 25426 TTh 9:00-10:20(05) (J. Krueger)

CLPS 1890. Laboratory in Psycholinguistics.
An advanced course in methodological approaches to the study of psycholinguistics. Processes (e.g. with adult lexical access, sentence processing, corpus linguistics, etc.) Recommended prerequisites: CLPS 0800 (COGS 0450) and CLPS 0900 (COGS/PSYC 0090), or equivalent.
Fall CLPS1890 S01 17086 TTh 2:30-3:50(12) (J. Morgan)

CLPS 1900. Research Methods And Design.
This course is designed to provide CLPS concentrators (psychology/cognitive science/cognitive neuroscience) with a variety of tools needed to conduct research: sources of data, standard designs (e.g., factorial experimental, correlational, longitudinal), research ethics, and best practices of literature review (e.g., meta-analysis). The course will include lectures, laboratory exercises, data collection, statistical analysis, and presentation of findings in written and oral reports. (Previously CLPS 1091)
Fall CLPS1900 S01 17088 TTh 2:30-3:50(12) (A. ShenHAV)
Spr CLPS1900 S01 25849 TTh 10:30-11:50(09) (A. Simmons)

In recent years, a class of machine learning algorithms called deep neural networks have brought about a revolution in the field of artificial intelligence. Deep learning networks have pushed the state of the art on a range of challenging problems that had until now seemed out of reach for machines. At the same time, these neural networks have also led to progress in computational neuroscience with improved models of neural responses in higher visual cortical areas. The goal of this course is to provide an advanced introduction to deep learning from the joint perspective of machine learning and neuroscience.
Spr CLPS1950 S01 26093 TTh 1:00-2:20(08) (T. Serre)

This is the capstone course for the Behavioral Decision Sciences (BDS) concentration. It entails a research project that serves as a culmination of each student's experience within the concentration. Students should choose a research topic compatible with the three electives that they have taken or will take as part of the concentration. They will also need a faculty advisor for the project. The course entails presentation of your ideas and plans, as well as your final results.
Fall CLPS1960 S01 17090 M 3:00-5:30(03) (S. Sloman)

Independent study or directed research in cognitive science. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course. Instructor permission required.

Required of all ScB concentrators and Honors students in psychology. Instructor permission required. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

This course is the first of a two-course sequence that provides graduate students with background in the core topics and themes in the cognitive and psychological sciences. Topics include sensory systems, perception, action, evolution and development, phonetics and phonology, attention, learning, memory, and executive function. Students are also introduced to a wide range of approaches and levels of analysis that scientists adopt to study these topics. Weekly topics are addressed in lectures and assigned readings. A separate seminar session involves presentation of current papers by students and discussion with faculty. Open to graduate students only.
Fall CLPS2001 S01 17074 TTh 10:30-11:50(13) (D. Badre)

CLPS 2002. Core Topics in Cognitive and Psychological Sciences II.
An advanced overview of fundamental issues in philosophy of cognitive science, higher-level cognition (concepts, similarity, reasoning, inference, judgment, and decision-making), higher-level language (syntax, semantics, and pragmatics), cognitive development, and social cognition. Domains will be introduced by classic readings and then followed up discussion on modern and contemporary approaches. All topics will be connected throughout by common themes.
Spr CLPS2002 S01 25416 TTh 1:00-2:20(08) (M. Boykin)

CLPS 2091. Graduate First Year Project Research.
Please check Banner for the correct section number and CRN to use when registering for this course.

CLPS 2092. Graduate First Year Project Research.
Please check Banner for the correct section number and CRN to use when registering for this course. Instructor permission required.

CLPS 2095. Practicum in Teaching.
Each student will assist a designated faculty member in teaching a course in cognitive science or related discipline. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course. Instructor permission required.

CLPS 2096. Directed Graduate Research.
No description available. Instructor permission required.

CLPS 2450. Exchange Scholar Program.
Fall CLPS2450 S01 16093 Arranged 'To Be Arranged'

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
**CLPS 2970. Preliminary Examination Preparation.**
For graduate students who have met the tuition requirement and are paying the registration fee to continue active enrollment while preparing for a preliminary examination.
Fall CLPS2970 S01 16094 Arranged "To Be Arranged"
Spr CLPS2970 S01 24847 Arranged "To Be Arranged"

**CLPS 2980. Foundations of Advanced Statistics.**
This course lays the foundation of graduate-level statistics concepts for all Ph.D. students in the CLPS Department. The course covers the basic multivariate techniques currently used in social and cognitive sciences: multiple regression, factorial and mixed between/within ANOVA, MANOVA, and linear approaches to categorical data analysis. The course does not cover mixed-effects (multi-level) analysis, covariance structure analysis (PCA, FA, SEM), or Bayesian statistics. The minimum prerequisite statistics knowledge assumed for the course will be undergraduate statistics, as covered in CLPS 0900 or comparable courses. The course assumes knowledge of such basics as point estimates, confidence intervals, normal distributions, hypothesis testing, t-tests, univariate linear regression, and one-way ANOVA. Students will have assigned readings, attend lectures, complete weekly homeworks, and write two take-home exams.
Fall CLPS2980 S01 25426 TTh 10:30-11:50(09) (B. Malle)

**CLPS 2990. Thesis Preparation.**
For graduate students who have met the residency requirement and are continuing research on a full-time basis.
Fall CLPS2990 S01 16095 Arranged "To Be Arranged"
Spr CLPS2990 S01 24848 Arranged "To Be Arranged"

**Linguistics**
**LING XLIST. Courses of Interest to Concentrators in Linguistics.**

**Humanities**
**HMAN 0900K. Suffering and Compassion (ANTH 0350).**
Interested students must register for ANTH 0350.

**HMAN 1000A. The Cogut Institute for the Humanities Research Seminar.**
This yearlong seminar involves reading and discussing in-progress research by the annual fellows of the Cogut Institute for the Humanities, an interdisciplinary group of faculty, postdoctoral fellows, graduate students, and undergraduates engaged in extended research on a major project or honors thesis. Students read a wide range of works-in-progress, prepare questions and participate in seminar discussions, intervene as first questioners for specific sessions assigned to them in advance, and present their own work twice during the year. Students are required to complete both semesters (HMAN 1000A in the fall and HMAN 1000B in the spring) to receive credit. Admission to the course requires that students have received the Cogut Institute Undergraduate Fellowship for the year in which they enroll. More information about the fellowship and application process may be found at https://humanities.brown.edu/apply/undergraduate-fellowship.
Fall HMAN1000/S01 16752 T 11:00-1:00(13) (P. Szendy)

**HMAN 1000B. The Cogut Institute for the Humanities Research Seminar.**
This yearlong seminar involves reading and discussing in-progress research by the annual fellows of the Cogut Institute for the Humanities, an interdisciplinary group of faculty, postdoctoral fellows, graduate students, and undergraduates engaged in extended research on a major project or honors thesis. Students read a wide range of works-in-progress, prepare questions and participate in seminar discussions, intervene as first questioners for specific sessions assigned to them in advance, and present their own work twice during the year. Students are required to complete both semesters (HMAN 1000A in the fall and HMAN 1000B in the spring) to receive credit. Admission to the course requires that students have received the Cogut Institute Undergraduate Fellowship for the year in which they enroll. More information about the fellowship and application process may be found at https://humanities.brown.edu/apply/undergraduate-fellowship.
Spr HMAN1000ES/S01 25271 T 11:00-1:00 (P. Szendy)

**HMAN 1400D. Form and Formalism (HIAA 1875 or APMA 1920).**
Interested students must register for HIAA 1875 or APMA 1920.

**HMAN 1715S. Introduction to iPhone/iPad Moviemaking Using 3-D and 360 VR Comparisons.**
Mobile Devices are democratizing movie-making by lowering barriers to entry, enabling students to become full-fledged members of the film industry virtually overnight. This pioneering course provides the basic tools for students to create and distribute no- and low-budget live-action motion pictures with professional production values utilizing only their personal smartphones. Students will acquire the skills to plan, capture and edit short motion pictures through hands-on instruction and experimentation with low-cost accessories, including selfie-sticks, lens adapters, directional microphones and iPhone apps like Filmic Pro, Vizzywig and iMovie. Limited to junior, senior and graduate students.
Fall HMAN1715S/S01 17772 T 4:00-6:30(07) (T. Bogosian)
Spr HMAN1715S/S01 26103 T 4:00-6:30(16) (T. Bogosian)

**HMAN 176D. Advanced Topics in the History of American Feminisms.**
This interdisciplinary seminar encounters the question "what is feminism?" through the history of women, queer, and gender outlaw in the 18th, 19th, and 20th century United States. We will read documentary sources, feminist theory, and historical scholarship to ask who women were, what they were up against, and what they wanted. We will hold "women" as a contingent category that changed over time often in relation to categories such as race, reproduction, violence, protest, work, and queerness. And we will center major debates and keywords of contemporary feminist theory, including misogyny, gender essentialism in the era of trans*feminisms, the phrase "white feminism," ugly and minor affects (including especially nostalgia, besiegedness, anxiety, and purity), institutionalization and the history of women's studies, and the question of the canon.
Fall HMAN176D/S01 17603 M 12:00-2:30(08) (E. Owens)

**HMAN 176E. Experimental Ethnography for the Masses.**
This course is a forward-thinking exploration of experimental ethnography, focusing on creative and multi-modal approaches and their relevance and application to humanistic social inquiry. Participants will consider both the lingering hierarchies and decolonial horizons of knowledge production and sharing, centering theory and practice from a range of disciplines within as well as outside of the academy. Geared to advanced undergraduate and early graduate students, learning takes place through modules and case study, supplemented by guest lectures, residencies, and other activities. The course also includes a series of lab sessions providing training in specific methods such as creative writing, drawing, photography, film, and performance, and culminates in a public sharing of participants' collaborative and independent work.
Fall HMAN176E/S01 17770 TTh 1:00-2:20(06) (R. Carter)

**HMAN 176F. How to Do Things with Modernism.**
In the wake of the recent wave of centenary celebrations—of avant-garde movements, of revolutionary prose and poetry, of paradigm-shifting artworks, and of performances that have gone down in history—this course will explore ways of working with modernism today. Treating it as a sweeping aesthetic upheaval across an international horizon that tied together a range of different disciplines—literature, the visual arts, music, dance, and philosophy—we will study both its monuments and its margins, its languages and its gestures, against a backdrop of new forms of experience, education, and entertainment: museums, variety theaters, amusement parks, world’s fairs. We will also delve into recoveries or continuations of modernism by other means and to different ends, in recent exhibitions, performances, and rewritings.
Fall HMAN176FS/S01 17594 TTh 10:30-11:50(13) (M. Clayton)

**HMAN 176G. Politics of Migration.**
What are the politics of migration? Do migrants ‘vote with their feet’? And if so, what exactly are they voting for or against? This course explores the rich variety of political meanings that have been attached to the act of migrating in the recent past, from 18th-century Enlightenment celebrations of self-help to present-day associations with poverty, persecution, and climate change. In the process, we will also consider with the foundational question of what counts as political in the first place, why, and who decides. To better understand these questions, we will read scholarship by...

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Historians, anthropologists, literary scholars, and social scientists, along with a wide range of primary documents like first-hand migrant testimony, novels, film, memorials, and more.

**HMAN 1900. Independent Study.**

Digital humanities uses digital methodologies and formats to answer humanities research questions, produce and share knowledge, and teach. It encompasses critical studies of digital environments, innovative modes of researching and advancing arguments (including methodologies for constituting archives, analyzing texts and images, and visualizing data), new forms of scholarly and general publications, and digital pedagogy. The digital changes the way we research, understand, and share information in the humanities. This course will introduce students to a range of methodologies and critical lenses. Students will learn to collect resources formatted for machine-actionable research, analyze qualitative and quantitative datasets, and visualize and present their findings. They will consider the ethics of digital work and publication. Each student will plan a digital humanities project. This course is open to all graduate students and fulfills a requirement for the doctoral certificate in digital humanities.

**HMAN 2300. Introduction to Digital Humanities.**

Digital humanities uses digital methodologies and formats to answer humanities research questions, produce and share knowledge, and teach. It encompasses critical studies of digital environments, innovative modes of researching and advancing arguments (including methodologies for constituting archives, analyzing texts and images, and visualizing data), new forms of scholarly and general publications, and digital pedagogy. The digital changes the way we research, understand, and share information in the humanities. This course will introduce students to a range of methodologies and critical lenses. Students will learn to collect resources formatted for machine-actionable research, analyze qualitative and quantitative datasets, and visualize and present their findings. They will consider the ethics of digital work and publication. Each student will plan a digital humanities project. This course is open to all graduate students and fulfills a requirement for the doctoral certificate in digital humanities.

**HMAN 2301. Digital Humanities Capstone Seminar.**

Participants in the Digital Humanities Capstone Seminar will learn how to design and build their own digital humanities project and/or participate as a key member on an already established digital humanities project with a faculty leader through hands-on, step by step instruction. Students will grapple with key methodologies and theoretical frameworks (including critical, Black, Indigenous, and Latinx digital humanities) and consider how to situate their own work within these ideas. Seminar participants will participate in the Digital Humanities Salon, where they will also present their project. Where desired and advisable, the capstone project may build toward dissertation work. Admission in the course is conditional on enrollment in the doctoral certificate in digital humanities, and partial or full completion of the digital tools and methods requirement.

**HMAN 2401R. Capitalism and its Metamorphoses.**

Not only has capitalism been defined in many different ways (as this or that); it also redefines itself endlessly. Is capitalism as metamorphosis the best definition of it? And if so, could we encapsulate capitalism in the conjunction or preposition “as,” which registers both the expression of equivalence (“as much as”) and the fiction of it (“as if,” “as though,” “as it were”). This collaborative humanities seminar will explore the metamorphic masks of capitalism through readings ranging from Marx (capitalism as vampirism) and Benjamin (capitalism as religion) to Sylvia Wynter (capitalism as politics). We will approach literary genres such as “narratives” (where money narrates its own circulation) and reflection upon the fictionality of personhood (corporations acting as persons), as well as metaphors of mining (data) and extraction (energy) as shared logics of the "capitalocene."

**HMAN 2401S. Experimental Ethnography for the Masses.**

This course is a forward-thinking exploration of experimental ethnography, focusing on creative and multi-modal approaches and their relevance and application to humanistic social inquiry. Participants will consider both the lingering hierarchies and decolonial horizons of knowledge production and sharing, centering theory and practice from a range of disciplines within as well as outside of the academy. Geared to advanced undergraduate and early graduate students, learning takes place through modules and case study, supplemented by guest lectures, residencies, and other activities. The course also includes a series of lab sessions providing training in specific methods such as creative writing, drawing, photography, film, and performance, and culminates in a public sharing of participants’ collaborative and independent work.

**HMAN 2401T. Critique of Political Theology: Ancient Texts and Contemporary Questions.**

The seminar examines political theology through critical readings of ancient canonical texts considered as foundational in the traditions of Western philosophy, Judaism, and Christianity. Texts from Anaximander, Sophocles, Euripides, Aristotle, the Hebrew Bible, the New Testament, and the Renaissance musings of Etienne de La Boetie will be read alongside 20th-century thinkers—Carl Schmitt, Pierre Clastres, Cornelius Castoriadis, Hans Blumenberg, Michel Foucault, Regina Schwartz, Jan Assmann, Giorgio Agamben, Judith Butler, and Bonnie Honig. Can readings of ancient canons be both non-anachronistic and critical? Must critique be secular? Or Gnostic? Can the political be separated from the theological? What can formations of ancient theo-political imagination teach us about the limits of ours? The seminar is taught in parallel with Professor Stathis Gourgouris and his class at Columbia university. Collaborative work will take place among students at Brown and across the two campuses.

**HMAN 2401U. Into the Wild: In Search of Eco-Democracy.**

How are we to respond to ecological crises that interweave politics, economy, religion, and culture, and that affect and position people differently based on their race, class, gender, sexuality, and other aspects of their identities? What resources do we have—or can we create—for reimagining “the human” and the more-than-human in ways that might be emancipatory for both? What kinds of cultural efforts, artistic work, social practices, and political institutions might figure in this reimagining? This collaborative humanities seminar explores a diverse range of contemporary and historical works, including poetry, fiction, film, theology, social and political theory, nature writing, and environmental studies, including work by Wordsworth, Shelley, Thoreau, Bennett, Vogel, Du Bois, Kateb, Silko, Keller, Kymlicka, Gomez-Baris, Jarman, and Nixon, among others. The course emphasizes collaborative thinking and writing, both inside and outside the classroom.

**HMAN 2401V. Marking Meaning: Visual Signs, Language, and Graphic Invention.**

To be human is to make many marks: tags and emblems of identity, memory aids that direct and guide human action, and writing that records the sounds and meanings of language, or that might exult in the purposively meaningless asemic script. This process reveals the powers of human invention and facilitates and deepens the “graphospheres” that envelop human life. Visible, concrete signs form an environment from which people construct and construe meaning. This collaborative humanities seminar addresses the nature of graphs from past to present. Topics include: the technology of graphs; their many precursors and parallel notations; their emergence, use, and “death”; their development over time, especially in moments of cultural contact and colonialism; their setting and presence as physical things; the perils and possibilities of their interpretation; acts of grapholatry and graphoclasm; and the nature of non-words.

**HMAN 2401W. Versions of Emptiness.**

This collaborative humanities seminar will address the question of what we understand by “emptiness.” Conversely, we will ask what we mean by “fullness,” and how that is conceived of as the opposite of emptiness. Beginning with Lucretius’ notion of the void, and ending with the free jazz of Ornette Coleman, the seminar will examine a series of philosophical and artistic versions of emptiness (and fullness) as they have played out from ancient/classical to modern/contemporary times. Further examples will include the poetry of Paul Celan, novels by Marguerite Duras, a miniature by Gentile Bellini, and the paintings of Mark Rothko. The constant backdrop to our discussions will be how the passivity or potentiality of blankness is, or is not, transformed into activity or actuality (as well as the ethical and political consequences of that transformation).

**HMAN 2401Y. Project Development Workshop.**

In this capstone course, students completing the Doctoral Certificate in Collaborative Humanities pursue individual or collaborative projects, such as a dissertation chapter, an article on method/theory, or a stand-alone essay related to the larger field. The workshop provides a collaborative and supportive space in which students from different disciplines can share their work and receive and give feedback that will broaden and sharpen the framing of their projects. At the end of the semester, for up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
participants present in a Collaborative Public Workshop. Admission to the seminar requires a formal application process and the completion of two HMAN 2400 seminars.

Comparative Literature

**COLT 0510C. The World of Lyric Poetry.**
Lyric poetry is the prime mode for conveying emotion in many cultures, from ancient times to the present day. This course will survey the variety of forms and themes from the earliest texts from Greece, Rome, China, and Japan, then the glories of the Renaissance and the Tang Dynasty, and finally to the challenges for lyric expression in the modern world. Enrollment limited to 19 first year students.

**COLT 0710Z. Comedy from Athens to Hollywood.**
This course will look at ancient comedy from its birth in Athens and Rome through Renaissance incarnations to the 19th and 20th centuries, including novels and films as well as plays. We will survey the main topics of comedy, from Aristophanes’ focus on the absurdities of daily and political life in Athens to the Roman codification of a genre of everyman in love and in trouble. We will also examine how later writers and filmmakers use both traditions to give comedy its subversive power of social commentary.

**COLT 0711O. Off the Beaten Path: The Diversity of Modern Japanese Literature.**
An introduction to major and minor works of Japanese literature produced during the Japanese Empire and in post-WWII Japan. Canonical writers include Tanizaki Junichiro, Higuchi Ichiyo and Kawabata Yasunari, as well as contemporary novelists Ogawa Yoko, Murata Sayaka and others, including women, queers, revolutionaries and Japan-resident Koreans. Close reading skills will be emphasized, as well as an understanding of how literature has generated knowledge about race, ethnicity, gender, class and their intersections.

**COLT 0810G. Equity Law Literature Philosophy.**
Justice, rigorously applied, yields injustice. This paradox haunted Western aspirations toward legal and political justice from antiquity to the Renaissance. It necessitated the formulation of a complementary principle, equity, whose job it was to correct or supplement the law in cases where the strict application of it would lead to unfairness. In England, equity was enforced by a separate system of law, and it was a weighty, ambiguous term of great emotional force, with a particular appeal to Shakespeare. After its decline, Dickens and Kafka wrote two of the greatest literary works set in a world without equity.

**COLT 0810M. Uncanny Tales: Narratives of Repetition and Interruption.**
What makes stories creepy? Close readings of short narratives with special attention to how formal and thematic elements interact to produce the effects of uncertainty, anxiety and incoherence peculiar to “the uncanny.” Topics include: the representation of the self in images of the arts; the representation of speech; instabilities of identity and spatial and temporal boundaries; doubles, monsters, automata and hybrids. Texts selected from: Walpole, Shelley, Hoffmann, Keist, Poe, Dostoyevsky, Freud, Wilde, Cortazar, Kafka, Lovecraft.

**COLT 1210. Introduction to the Theory of Literature.**
An historical introduction to problems of literary theory from the classical to the postmodern. Issues to be examined include mimesis, rhetoric, hermeneutics, history, psychoanalysis, formalisms and ideological criticism (questions of race, gender, sexuality, postcolonialism). Primarily for advanced undergraduates. Lectures, discussions; several short papers.

**COLT 1310G. Silk Road Fictions.**
The course introduces students to cross-cultural comparative work, and to critical issues in East-West studies in particular. We will base our conversations on a set of texts related to the interconnected histories and hybrid cultures of the ancient Afro-Eurasian Silk Roads. Readings will include ancient travel accounts (e.g., the Chinese novel Journey to the West, Marco Polo); modern fiction and film (e.g., Inoue Yasuji; Wole Soyinka); and modern critical approaches to the study of linguistic and literary-cultural contact (e.g., Lydia Liu, Emily Apter, Mikhail Bakhtin, Edward Said). Topics will include bilingual texts, loanwords, race and heritage, Orientalism. No prior knowledge of the topic is expected and all texts will be available in English.

**COLT 1422M. Reading the Short Story.**
This course invites students to explore the pleasurable challenges of close reading within the context of a compressed form, the modern short story. Select works from the nineteenth century on wards—many of them masterpieces, some hidden gems from around the world—will help us question what we think they mean and how we know this. We will develop practices and techniques for articulating such quandaries as even we observe how sociocultural themes, theories of interpretation, and literary movements intertwine with expressions of the self and the politics of identity.

No prerequisites. Open to all undergraduates.

**COLT 1422O. The Complete "Story of the Stone"**
Better known as The Dream of the Red Chamber (Honglou meng), this seminar will read all 120 chapters of China’s greatest novel from many disciplinary perspectives, including sociology, art history, cuisine, medicine, and the poetics of narrative in a lyrical tradition. Students may read the text in English translation or in Chinese.

**COLT 1430D. Critical Approaches to Chinese Poetry.**
Examination of works of Chinese poetry of several forms and periods in the context of Chinese poetic criticism. Knowledge of Chinese not required, but provisions for working with original texts will be made for students of Chinese language.

**COLT 1710D. Exercises in Literary Translation.**
Exercises and investigations in the history, theory, and practice of literary translation. Students pursue individual projects for translation workshops. Common exercises draw on Shakespeare translation, from classic translations in Europe to unique examples like Nyereere’s Swahili Caesar and current projects like Shakespeare in Modern English or The Chinese Shakespeare. Prerequisite: one foreign-language course in literature at 1000-level (or equivalent).

**COLT 1810N. Freud: Writer and Reader.**
A broad survey of Freud's writings, with particular emphasis on psychoanalysis' relevance to literary theory and cultural analysis. Readings include Freud's major works, as well as secondary sources focused on applications to literary studies.

**COLT 1812A. Literatures of Immigration.**
Why do people migrate? How do literary genres, including poetry, fiction, autobiography and memoir, characterize immigrant experiences? How is the experience of "coming from somewhere else" similar and different for each subsequent generation of immigrants? How does literature indicate...
the impacts of migration on the culture, politics and economics of the countries of immigration and emigration? How do literatures of immigration imagine the past, present and future of networks and communities of immigrants? Focusing on twentieth-century literary texts and the socio-historical context of mass migration, the first half of the course examines immigration literature in the U.S., the second half of the course explores literatures of immigration beyond the U.S., and the course concludes with an inquiry into immigration in our presently globalizing age.

COLT 1814S. The Balkans, Europe’s Other?: Literature, Film, History.
Introduces the modern Balkans through a critical examination of literary and visual, historiographic and political, narratives. The course considers the contestation over a shared historical past and interreligious geographic space through common and divergent master narratives, myths, myths, and recurring discourses. It also examines the region’s aesthetic, religious, and political relation to Europe. Do the Balkans constitute a traumatized, “ balkanized,” self-colonized, abject modernity at Europe’s edges, its inner alterity? Given the acclaim achieved by Balkan filmmakers since 1989, the course also asks how Balkan artists, caught in-between nationalism, Orientalism, Eurocentrism and globalization, assert agency and subjectivity and captivate our imaginations.

COLT 1814U. Politics of Reading.
What do we do when we read? And do we even do something, or, as Blanchot suggests, do we rather let be? While being true to Michel de Certeau’s plea for a “politics of reading” and an “autonomy of the reader”, we will question its binary logic (active vs. passive): 1. by looking closely at the (de)construction of a “sovereign reader” in Hobbes’ Leviathan; 2. by analyzing the reading imperative—“Read!”—as it is staged in Plato’s and, above all, in Sade’s erotics; 3. by taking seriously Walter Benjamin’s paradoxical intuition that one should “read what was never written”.

COLT 1815U. Encountering Monsters in Comparative Literature.
What is a monster? What happens when one encounters a monster? This literature-based seminar considers monsters in different literary traditions, including ancient epic, folklore, poetry, theory, science fiction, and cinema. Monstrous figures from different cultural traditions, places, eras, genres, and forms will guide us through various representations of monstrosity—a concept which both invites and defies definition. We will ask: What cultural and imaginative needs do monsters fill? How do monsters help us think about identity politics, and the cultural production of ideas of self and other? To what extent are monsters tools of ideological oppression, and to what extent are monsters liberatory figures that offer conceptual alternatives to systems of oppression and violence?

COLT 1815W. How to Do Things with Modernism (HMAN 1976F).
Interested students must register for HMAN 1976F.

COLT 1815X. Censorship.
Who decides what we read and view? Censorship has a long history in authoritarian states and religious institutions, but where else has it taken shape, today and in the past? This course engages with a series of once “banned” literary and artistic works alongside creative and legal critiques of censorship. Addressing recent forms of censorship in the arts and the political sphere—exhibit closings, book burnings, redaction, classification—and the acts of protest, whistle-blowing, and document-dumping that aim to circumvent these, the course explores ideas of public interest, national defense, and decency that underpin decisions to restrict.

Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

Section numbers vary by instructor. Please see the registration staff for the correct section number to use when registering for this course.

Special work or preparation of honors theses under the supervision of a member of the staff. Open to honors students and to others. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

COLT 2450. Exchange Scholar Program.
Fall COLT2450 S01 16996 Arranged 'To Be Arranged'
Spr COLT2450 S01 24849 Arranged 'To Be Arranged'
Spr COLT2450 S02 24850 Arranged 'To Be Arranged'

COLT 2720C. Literary Translation.
Study and practice of translation as art and a potent form of literary criticism. Translation is an act of interpretation, which informs the language of the translator and the text as a whole: context, intent, and language. Discussion will include the impact of cultural difference, tone and time on translation, and the role of analytical as well as intuitive understanding of the original in the translator’s endeavor.

COLT 2820A. New Directions for Comparative Literature.
In this seminar we will read a number of recent critical and theoretical works (not limited to the humanities) which may fruitfully suggest new directions for literary studies. Our readings may include topics such as the new history of capitalism, sociological approaches to the modern choice architecture of emotions, recent philosophy of science, border studies and migration, decolonization, ecocriticism and public humanities. Participants will be expected to contribute to the syllabus according to their own research interests.

COLT 2821S. Historical Form. 
This class explores comparative literary approaches to historical narrative, especially in the context of recent work in transnational studies. Questions to be considered will include: what are the implications of transnational and postcolonial historiography for the formal study of historical writing and knowledge? What are the aesthetic resources of non-European traditions for narrative analysis? What tropes and spatiotemporal frameworks do writers use to narrate the connected past?

COLT 2822M. Thinking Through Comparison: Han and Roman Empires.
This seminar introduces students to comparative methods in the study of antiquity, with a focus on Han China and the Roman Empire. We will consider how and why we do comparative history, through the examples of the Han Chinese and Roman Empires. Sessions will consider existing examples of comparative work on these two ancient cultures from the eighteenth century to today, asking what questions the scholars involved were asking and what methodologies they brought to bear to answer them. Using a balance of ancient and modern readings, we will ask what the purpose of comparison is and what methodologies comparisons demand as well as conducting our own comparative research informed by the most recent scholarship on both civilisations. No knowledge required of ancient European languages or ancient or modern Chinese languages.

COLT 2822N. Proust and Benjamin.
This seminar examines works by two twentieth-century authors who contributed richly to the modernist literary and philosophical project of thinking and writing about time, and what it means to live in time. Our main task will be to read all seven volumes of Marcel Proust’s magnum opus In Search of Lost Time, but we’ll also read Walter Benjamin’s short but densely poetic Berlin Childhood Around 1900, as well as a few essays by Benjamin on Proust and on time and history. A reading knowledge of French or German would be an asset, but is not required.

COLT 2822O. Literature and Philosophy: Case Studies of a Vexed Relationship (GRMN 2662Q).
Interested students must register for GRMN 2662Q.

COLT 2980. Reading and Research.
Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

COLT 2990. Thesis Preparation.
For graduate students who have met the residency requirement and are continuing research on a full time basis.

For up-to-date course information please visit Courses@Brown.edu (https://cabrown.edu).
Computer Science

CSCI 0020. The Digital World.
Removes the mystery surrounding computers and the ever-growing digital world. Introduces a range of topics and many aspects of multimedia, along with explanations of the underlying digital technology and its relevance to our society. Other topics include artificial intelligence, IT security, ethics and the economics of computing as well as the effects of its pervasiveness in today’s world. Introductory programming and analytic skills are developed through Excel, HTML, CSS, Javascript, and Python assignments. CSCI0020 is a good introduction to a wide range of CS topics that have broad relevance in our society. No prerequisites. Cannot be taken to fulfill CS Concentration.

Fall CSCI0020  S01 17412  TTh 9:00-10:20(05) (J. Hughes)

Fall CSCI0105  S01 17416  TTh 2:30-3:50(12) (A. van Dam)

CSCI 0170. Computer Science: An Integrated Introduction.
CSCI0170/0180 is an introductory sequence that helps students begin to develop the skills, knowledge, and confidence to solve computational problems elegantly, correctly, efficiently, and with ease. The sequence is unique in teaching both the functional and imperative programming paradigms—the first through the languages Scheme and ML in CSCI0170; the second through Java in CSCI0180. The sequence requires no previous programming experience. Indeed, few high school students are exposed to functional programming; hence even students with previous programming experience often find this sequence an invaluable part of their education.

CSCI 0108. TA Apprenticeship: Full Credit.
Being an undergraduate TA is a learning experience: one not only gets a deeper understanding of the course material, but gains management and social skills that are invaluable for one’s future. Students taking this course must first be selected as an undergraduate TA for a Computer Science course, a course the student has taken and done well in. Students will work with the course’s instructor on a variety of course-related topics, including preparation of material and development of assignments. Whether CSCI 0081 or its half-credit version (CSCI 0082) is taken is up to the professor of the course being TA’d. Instructor permission required.

Fall CSCI0081  S01 17414  Arranged (T. Doepner)

CSCI 0081. TA Apprenticeship: Half Credit.
Being an undergraduate TA is a learning experience: one not only gets a deeper understanding of the course material, but gains management and social skills that are invaluable for one’s future. Students taking this course must first be selected as an undergraduate TA for a Computer Science course, a course the student has taken and done well in. Students will work with the course’s instructor on a variety of course-related topics, including preparation of material and development of assignments. Whether CSCI 0081 or its half-credit version (CSCI 0082) is taken is up to the professor of the course being TA’d. Instructor permission required.

Fall CSCI0150  S01 17416  TTh 2:30-3:50(12) (A. van Dam)

An introduction to computing and programming that focuses on understanding and manipulating data. Students will learn to write programs to process both tabular and structured data, to assess programs both experimentally and theoretically, to apply basic data science concepts, and to discuss big ideas around the communication, use, and social impacts of digital information. Designed for both concentrators and non-concentrators, this is the first course in either a two- or three-course introductory sequence leading into advanced CS courses. Programming assignments will be smaller scale than in CSCI 0150/0170, thus allowing students time to practice programming and discuss computational ideas in a broader context.

Fall CSCI0111  S01 17625  MWF 10:00-10:50(04) (M. Zizyte)
Fall CSCI0111  S02 17626  Arranged(04) (M. Zizyte)

Explores how organization of programs, data, and algorithms affects metrics such as time performance, space usage, social impacts, and data privacy. Students will learn how to choose between candidate data structures for a problem, how to write programs over several standard data structures, how to assess the quality of programs (from theoretical, practical, and social perspectives), and how to apply their skills to computational problems that could arise in a variety of fields. The course will teach object-oriented programming, in combination with basic functional and imperative programming concepts. The course is designed for both concentrators and non-concentrators. Prerequisite: CSCI 0111
Fall CSCI0112  S01 17465  MWF 1:00-1:50(08) (T. Nelson)

CSCI 0150. Introduction to Object-Oriented Programming and Computer Science.
Introduces programming in Java (a modern, widely-used programming language), interactive 2D computer graphics, and some fundamental data structures and algorithms. Students learn by programming a sequence of interactive graphics programs which gradually increase in complexity, including Doodle Jump, Tetris (http://bastilleweb.techhouse.org/), and a significant final project. Lectures are supplemented by skits performed by the UTAs (Undergraduate Teaching Assistants) to teach course concepts and for a bit of added entertainment! This course is intended for both potential concentrators and those who may take only a single course. There are NO prerequisites, and no prior knowledge of programming is required, though students who do have prior programming experience are also encouraged to take the course! 

Fall CSCI0150  S01 17416  TTh 2:30-3:50(12) (A. van Dam)

CSCI 0170. Computer Science: An Integrated Introduction.
CSCI0170/0180 is an introductory sequence that helps students begin to develop the skills, knowledge, and confidence to solve computational problems elegantly, correctly, efficiently, and with ease. The sequence is unique in teaching both the functional and imperative programming paradigms—the first through the languages Scheme and ML in CSCI0170; the second through Java in CSCI0180. The sequence requires no previous programming experience. Indeed, few high school students are exposed to functional programming; hence even students with previous programming experience often find this sequence an invaluable part of their education.

CSCI 0190. Accelerated Introduction to Computer Science.
A one-semester introduction to CS covering programming integrated with core data structures, algorithms, and analysis techniques, similar to the two-course introductory sequences (CSCI 0150-0200 and CSCI 0170-0200). All students wishing to take CSCI 0190, irrespective of prior preparation, must pass a sequence of online placement assignments during the summer. Though the placement process is most appropriate for students who have had some prior programming experience, it is self-contained so all are welcome to try learning the provided material and attempting placement. Placement information will be available by June 1st at http://cs.brown.edu/courses/csci0190/. Students who do not successfully pass the placement process won’t be allowed to register.
Fall CSCI0190  S01 17457  MWF 9:00-10:50(09) (S. Krishnamurthi)

CSCI 0200. Program Design with Data Structures and Algorithms.
Students extend their program-design skills while learning multiple data structures, common graph algorithms, different forms of societal impacts from programs, how to analyze programs for performance, and how to work effectively with multiple styles of programming languages. Examples and course projects draw from several areas of computer science to help students identify their broader interests within the field. There will be a required weekly lab session involving hands-on work with course material. Prerequisite: CSCI 0112, CSCI 0150, 0170, or CSCI 0190. In addition, CSCI 0112 can be used with both additional work and the instructor’s permission. The first two weeks of the course will be taught as at least two parallel tracks based on which prerequisite course a student has taken.

Fall CSCI0200  S01 17458  MWF 2:00-2:50(11) (N. DeMarinis)
Fall CSCI0200  S02 17459  Arranged(11) ‘To Be Arranged’

CSCI 0320. Introduction to Software Engineering.
Focuses on designing, building, testing, and maintaining systems collaboratively. It covers programming techniques (using Java and TypeScript with various frameworks), object-oriented design, advanced testing (e.g., fuzz testing), debugging approaches, and tools such as source control systems. The course concludes with a major group project that students gather requirements for, then design and implement for up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
CSCI 0320. Introduction to Computer Systems.
High-level computer architecture and systems programming. The course covers the organization of computer systems (in terms of storage units, caches, processors, and I/O controllers) and teaches students assembly-language programming and C-language programming. Extensive programming exercises introduce students to systems-level programming on Unix systems, as well as to multi-threaded programming with POSIX threads. Students will be introduced to the functions of operating systems. Prerequisite: CSCI 0160, 0180, or 0200.
Fall CSCI0320 S01 17460 TTh 1:00-2:20(07) (T. Nelson)
Fall CSCI0320 S02 17461 Arranged(07) (T. Nelson)

CSCI 1010. Theory of Computation.
The course introduces basic models of computation including languages, finite-state automata and Turing machines. Proves fundamental limits on computation (incomputability, the halting problem). Provides the tools to compare the hardness of computational problems (reductions). Introduces computational complexity classes (P, NP, PSPACE and others). Prerequisites: CSCI0220 or CSCI1450 or CSCI1550 or APMA1650/1655 or CSCI1570
Fall CSCI1010 S01 17464 TTh 10:30-11:50(13) (L. De Stefani)

Fundamental concepts in 2D and 3D computer graphics, e.g., 2D raster graphics techniques and simple image processing. Focuses on geometric transformations, and 3D modeling, viewing and rendering. A sequence of assignments in C++ culminates in a simple geometric modeler and ray tracer. Prerequisite: CSCI 0160, CSCI 0180, CSCI 0190, or CSCI 0200. Some knowledge of basic linear algebra is helpful but not required. Strong object-oriented programming ability (e.g., in C++, Java or Python) is required.
Fall CSCI1230 S01 17466 TTh 10:30-11:50(18) "To Be Arranged"
Fall CSCI1230 S02 17467 Arranged(18) (D. Ritchie)

CSCI 1234 is a half-credit course intended to be taken concurrently with CSCI 1230 and provides students with a greater understanding of the material by having them extend each of 1230’s assignments to greater depth.
Fall CSCI1234 S01 17468 Arranged (D. Ritchie)

CSCI 1260. Compilers and Program Analysis.
Lexical analysis, syntactic analysis, semantic analysis, code generation, code optimization, translator writing systems. Prerequisites: CSCI 0220, or CSCI 0320, or CSCI 0300, or CSCI 0330, or CSCI 1310, or CSCI 1330.
Fall CSCI1260 S01 17469 MW 9:30-10:50(04) (R. Lewis)
Fall CSCI1260 S02 17476 Arranged(04) (R. Lewis)

CSCI 1270. Database Management Systems.
Introduction to database structure, organization, languages, and implementation. Relational model, query languages, query processing, query optimization, normalization, file structures, concurrency control and recovery algorithms, and distributed databases. Coverage of modern applications such as the Web, but with emphasis on Database Management Systems internals. Prerequisites: CSCI 0160, CSCI 0180, or CSCI 0190. One of CSCI 0300, 0330 or CSCI 0320 is strongly recommended.
Fall CSCI1270 S01 17477 TTh 9:00-10:20(05) (U. Cetintemel)

High-level computer architecture and systems programming. The course covers the organization of computer systems (in terms of storage units, caches, processors, and I/O controllers) and teaches students assembly-language programming and C-language programming. Extensive programming exercises introduce students to systems-level programming on Linux systems, as well as to multi-threaded programming with POSIX threads. Students will be introduced to the functions of operating systems. Enrollment limited to Master’s students only.
Fall CSCI1330 S01 17478 MWF 2:00-2:50(03) (T. Doepner)
Fall CSCI1330 S02 17479 Arranged(03) (T. Doepner)

CSCI 1360. Human Factors in Cybersecurity.
This course is designed to push you to think about cybersecurity as an idea with both physical and virtual elements. Throughout the course, we will examine the value of information, the importance of users, and the difficult balance between security and usability. The ultimate goal of this course is to give you the intellectual and scientific framework you need to create systems that are both secure and efficient to use. The course focuses on usable security practices, but also looks deeply at the way our society influences security.
Fall CSCI1360 S01 17480 W 3:00-5:30 (E. Zaldivar)
Fall CSCI1360 S02 18502 W 3:00-5:30(10) (E. Zaldivar)

CSCI 1450. Advanced Introduction to Probability for Computing and Data Science.
Probability and statistics have become indispensable tools in computer science. Probabilistic methods and statistical reasoning play major roles in machine learning, cryptography, network security, communication protocols, web search engines, robotics, program verification, and more. This course introduces the basic concepts of probability and statistics, focusing on topics that are most useful in computer science applications. Topics include modeling and solution in sample space, random variables, simple random processes and their probability distributions, Markov processes, limit theorems, and basic elements of Bayesian and frequentist statistical inference. Basic programming experience required for homework assignments.
Students cannot get concentration credit for both CSCI 1450 and APMA 1650/1655
Fall CSCI1450 S01 17482 TTh 2:30-3:50(12) (E. Uffal)

The application of computational methods to problems in natural-language processing. In particular we examine techniques due to recent advances in deep learning: word embeddings, recurrent neural networks (e.g., LSTMs), sequence-to-sequence models, and generative adversarial networks (GANs). Programming projects include parsing, machine translation, question answering, and chat-bots.
Fall CSCI1460 S01 17580 TTh 2:30-3:50(12) (E. Pavlick)

CSCI 1510. Introduction to Cryptography and Computer Security.
This course studies the tools for guaranteeing safe communication and computation in an adversarial setting. We develop notions of security and provably secure constructions for such cryptographic objects as cryptosystems, signature schemes and pseudorandom generators. We also review the principles for secure system design. Prerequisites: CSCI 0220, and either CSCI 0510 or CSCI 1010.
Fall CSCI1510 S01 17483 TTh 10:30-11:50(13) (P. Miao)

CSCI 1570. Design and Analysis of Algorithms.
A single algorithmic improvement can have a greater impact on our ability to solve a problem than ten years of incremental improvements in CPU speed. We study techniques for designing and analyzing algorithms. Typical problem areas addressed include hashing, searching, dynamic programming, graph algorithms, network flow, and optimization algorithms including linear programming. Prerequisites: CSCI 0160, CSCI 0180, or CSCI 0190, and one of CSCI 0220, CSCI 1010, CSCI 1450, MATH 0750, MATH 1010, MATH 1530.
Fall CSCI1570 S01 17484 TTh 2:30-3:50(12) (L. De Stefani)

CSCI 1600. Real-Time and Embedded Software.
Comprehensive introduction to the design and implementation of software for programmable embedded computing systems, in applications such as Internet of Things, transportation, and mobile. Includes the overall embedded real-time software design and development processes, with a focus on engineering for reliability. Major project component. Prerequisites: one of CSCI 0300, CSCI 0320, CSCI 0330, CSCI 1310, or CSCI 1330.
Fall CSCI1600 S01 17486 MWF 12:00-12:50(15) (M. Zizyte)

CSCI 1650. Software Security and Exploitation.
CSCI 1650 covers software exploitation techniques and state-of-the-art mechanisms for hardening software. The course begins with a summary of prevalent software defects, typically found in applications written in

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
memory unsafe languages, like C/C++, and proceeds with studying traditional and modern exploitation techniques, ranging from classical code injection and code reuse up to the latest goodies (e.g., JIT-ROP). For the most part, it focuses on defenses against certain vulnerability classes and the way(s) to bypass them. Students will be introduced to advanced software exploitation techniques and countermeasures, and study (in depth) the boundaries and effectiveness of standard hardening mechanisms, such as address space randomization and stack and heap protections.

Fall CSCI1650 S01 17489 MW 3:00-4:20(10) (V. Kemerlis)

CSCI 1680. Computer Networks. Covers the technologies supporting the Internet, from Ethernet and WiFi through the routing protocols that govern the flow of traffic and the web technologies that are generating most of it. A major concern is understanding the protocols used on the Internet: what the issues are, how they work, their shortcomings, and what improvements are on the horizon. Prerequisite: CSCI 0300, 0330,1310,1330 or consent of instructor.

Fall CSCI1680 S01 17490 TTh 9:00-10:20(05) (N. DeMarinis)

CSCI 1730. Design and Implementation of Programming Languages. Explores the design principles of modern programming languages through implementation, comparison, and reflection. Examines a variety of linguistic features that impact both control and data. Topics vary by year; more information on the course home page. Prerequisite: CSCI 0160, CSCI 0180 or CSCI 0190.

Fall CSCI1730 S01 17622 MWF 11:00-11:50(16) "To Be Arranged"

CSCI 1760. Multiprocessor Synchronization. This course examines the theory and practice of multiprocessor synchronization. Subjects covered include multiprocessor architecture, mutual exclusion, wait-free and lock-free synchronization, spin locks, monitors, load balancing, concurrent data structures, and transactional synchronization. Prerequisites: CSCI 0330.

Fall CSCI1760 S01 17491 TTh 1:00-2:20(06) (M. Herlihy)

CSCI 1805. Computers, Freedom and Privacy. Who is the Big Brother that we most fear? Is it the NSA -- or is it Google and Facebook? Rapidly changing social mores and the growing problem of cybersecurity have all contributed to a sense that privacy is dead. Laws protecting privacy and civil liberties are stuck in the analog age, while the capabilities for mass digital surveillance continue to advance rapidly. This course will examine a variety of informational privacy and technology issues. A major theme: the historical and contemporary struggle to bring surveillance under democratic control to protect against abuses of privacy, civil liberties and human rights.

Fall CSCI1805 S01 17492 TTh 9:00-10:20(11) (T. Edgar)

Fall CSCI1805 S02 17493 Arranged(11) (T. Edgar)

CSCI 1810. Computational Molecular Biology. High-throughput experimental approaches now allow molecular biologists to make large-scale measurements of DNA, RNA, and protein, the three fundamental molecules of the cell. The resulting datasets are often too large for manual analysis and demand computational techniques. This course introduces algorithms for sequence comparison and alignment; molecular evolution and phylogenetics; DNA/RNA sequencing and assembly; recognition of genes and regulatory elements; and RNA and protein structure. The course demonstrates how to model biological problems in terms of computer science.

Fall CSCI1810 S01 17494 TTh 2:30-3:50(12) (S. Istrail)

CSCI 1860. Cybersecurity Law and Policy. Course description: Cybersecurity and cyber conflict pose unique legal and policy challenges for governments, companies and citizens. The way those problems are resolved will shape the future of the internet. This course will examine cybersecurity as a legal and policy problem. How can government and society address network and computer insecurity while upholding privacy, civil liberties and other fundamental values?

Fall CSCI1860 S01 17495 Arranged (T. Edgar)

CSCI 1870. Cybersecurity Ethics. This timely, topical course offers a comprehensive examination of ethical questions in cybersecurity. These issues pervade numerous, diverse aspects of the economy and society in the Information Age, from human rights to international trade. Students will learn about these topics, beginning first with acquaintance with the dominant ethical frameworks of the 20th and 21st centuries, then employing these frameworks to understand, analyze, and develop solutions for leading ethical problems in cybersecurity. The things that you learn in this course will stay with you and inform your personal and professional lives.

Fall CSCI1870 S01 17496 M 3:00-5:30(04) (D. Hurley)

Fall CSCI1870 S02 17497 Arranged(04) (D. Hurley)

CSCI 1950N. 2D Game Engines. 2D Game Engines covers core techniques used in the development of the software that drives computer games and other interactive software. Projects involve building different varieties of 2D game engines as well as games that require use of the features implemented in the engines. Topics include high-level engine design, vector and raster graphics, animation, collision detection, physics, content management, and game AI. Prerequisite: CSCI 0160, 0180, or 0190. This course has also been offered as DISP CSCI1971. Students interested in an override should request on through Courses@Brown. Priority will be given to both seniors and juniors.

Fall CSCI1950N S01 17498 TTh 6:40-8:00PM(02) (J. Tompkin)

CSCI 1950T. Advanced Animation Production. Students will apply knowledge and skills gained in previous animation courses to produce a high quality short animated film as a group. Production will follow the industry standard pipeline that includes modeling, texturing, lighting, animating, rendering, and post production. Interested students will perform preproduction story and concept design prior to beginning of course. Prerequisite: CSCI 1250. Enrollment limited to 15. Instructor permission required.

Fall CSCI1950T S01 17579 M 3:00-5:30(03) (B. Meier)

CSCI 1951C. Designing Humanity Centered Technology. This semester we will explore how emerging technologies might shape our lives in the near future, as we design and build working prototypes. We will proceed from a set of questions that will complement a deep immersion in design process and creative practice. We will explore the "how" and "why" of designing new technologies. The course will help students build a portfolio of design projects that are in response to various design strategies such as Human Centered Design, Speculative Design, Critical Design, and Design Fiction, as well as developing skills for iterative prototyping and participatory critique.

Students interested in registering should sign up here: https://docs.google.com/forms/d/e/1FAlpQLSvlvo04ilCp5j52ubZQTxdVRFbnnChBT8egriWOcWcbRily6A/viewform

Fall CSCI1951C S01 17499 MW 11:00-1:50(15) (L. Gonsher)

CSCI 1951R. Introduction to Robotics. Each student will learn to program a small quad-rotor helicopter. We will provide each student with their own robot for the duration of the course. The course will cover PID controllers for stable flight, localization with a camera, mapping, and autonomous planning. At the end of the course, the aim is for students to understand the basic concepts of a mobile robot and aerial vehicle. Enrollment by instructor permission.

Fall CSCI1951R S01 17500 TTh 10:30-11:50(13) (S. Tellex)

CSCI 1951V. Hypertext/Hypermedia: The Web Was Not the Beginning and the Web Is Not the End. Hypertext/Hypermedia systems -- first designed in the 1960s -- link information and people. Developed in the late 1980s, the Web was the first global hypermedia system; 30+ years later, it represents a small part of past visions. Students will read papers from the 1960s onwards. They will read papers for class discussion. They will study architecture and design topics such as annotating, note taking, searching, networking, collaboration, permanence, and social impact. Web programming projects, using TypeScript/MERN stack, will culminate in group projects to create their own hypertext/hypermedia systems. Prerequisites: An introductory CS sequence or equivalent experience.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
CSCI 1951X. Formal Proof and Verification.

Proof assistants are tools that are used to check the correctness of programs. Unlike tools like model checkers and SAT solvers, proof assistants are highly interactive. Machine-checked formal proofs lead to trustworthy programs and fully specified reliable mathematics. This course introduces students to the theory and use of proof assistants, using the system Lean. We will use Lean to verify properties of functional programs and theorems from pure mathematics. We will learn the theory of deductive reasoning and the logic that these tools are based on. Text: "The Hitchhiker's Guide to Logical Verification" by Blanchette et al. Prerequisites: CSCI 1710 Logic for Systems or a proof-based mathematics course. Basic familiarity with functional programming (e.g. Haskell, ML) is helpful but not required.

Fall CSCI1951X S01 17501 MW 3:00-4:20(10) (R. Lewis)


Independent study in various branches of Computer Science. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

CSCI 1971. Independent Study in 2D Game Engines.

2D Game Engines covers core techniques used in the development 2D game engines. Projects involve building different varieties of 2D game engines and class notes that require use of the features implemented in the engines. Topics include high-level engine design, vector and raster graphics, animation, collision detection, physics, content management, and game AI. Prerequisite: CSCI 0160, 0180, or 0190.

CSCI 1972. Topics in 3D Game Engine Development.

Covers core techniques in 3D game development with an emphasis on engine architecture. Students independently develop their own engines using C++, OpenGL, and the Qt framework, then work in groups to create a polished game. Topics include: spatial subdivision, player representation, collision detection and response, game networking, GPUs, and OpenGL. Prerequisite: CSCI 1230 and one of the following CSCI 0320, CSCI 0330, CSCI 1950N, or CSCI 1971.


CSCI 2390. Privacy-Conscious Computer Systems.

We will examine research papers on distributed system design, privacy-preserving, and secure computing techniques, and discuss how to apply these ideas in practice. The goal is to understand if, and how we can better protect the sensitive data we entrust to computer systems, both against leaks and against unauthorized or unethical use. We will look at web services, datacenter systems, distributed communication systems, and machine learning systems. During class, you will present and discuss papers, finish a set of hands-on assignments, work on a research project, and present your project at the end of the semester.

Fall CSCI2390 S01 17508 TTh 2:30-3:50(12) (M. Schwarzkopf)

CSCI 2450. Exchange Scholar Program.

Fall CSCI2450 S01 16098 Arranged "To Be Arranged"

CSCI 2590. Advanced Topics in Cryptography.

Seminar-style course on advanced topics in cryptography. Example topics are zero-knowledge proofs, multi-party computation, extractors in cryptography, universal compositability, anonymous credentials and ecash, interplay of cryptography and game theory. May be repeated for credit. Prerequisite: CSCI 1510 or permission of the instructor.

Fall CSCI2590 S01 17585 W 3:00-5:30(10) (A. Lysyanskaya)

CSCI 2810. Advanced Computational Molecular Biology.

High-throughput experimental approaches now allow molecular biologists to make large-scale measurements of DNA, RNA, and protein, the three fundamental molecules of the cell. The resulting datasets are often too large for manual analysis and demand computational techniques. This course introduces algorithms for sequence comparison and alignment; molecular evolution and phylogenetics; DNA/RNA sequencing and assembly; recognition of genes and regulatory elements; and RNA and protein structure. The course demonstrates how to model biological problems in terms of computer science. CSCI 0160, 0180, 0190, or 0200. Recommended: CS 220, or some other course that introduces concepts from discrete math and probability. Course overrides are available at the instructor’s discretion.

Fall CSCI2810 S01 17504 TTh 2:30-3:50(12) (S. Istrail)

CSCI 2890. Comprehensive Examination Preparation.

For graduate students who have met the tuition requirement and are paying the registration fee to continue active enrollment while preparing for a preliminary examination.

Fall CSCI2890 S01 16099 Arranged "To Be Arranged"
Spr CSCI2890 S01 24852 Arranged "To Be Arranged"

CSCI 2951I. Computer Vision for Graphics and Interaction.

Computer vision reconstructs real world information from image and video data; computer graphics synthesizes dynamic virtual worlds; interaction lets us explore these worlds; and machine learning allows us to map between domains across vision, graphics, and interaction. In visual computing, these fields converge to exploit both models of visual appearance and databases of examples to generate and interact with new images. This enables applications from the seemingly simple, like semantic photo editing, to the seemingly science fiction, like mixed reality. In this seminar, we will discover the state-of-the-art algorithmic contributions in computer vision which make this possible. Please join us!

Fall CSCI2951I S01 17628 MW 3:00-4:20(10) "To Be Arranged"

CSCI 2952G. Deep Learning in Genomics.

Deep learning models have achieved impressive performance in fields like computer vision and NLP. Given an adequate amount of data, these models can extract meaningful representations to perform accurate predictions. The collection of vast quantities of biological data naturally leads to the question -- can deep learning help us understand genomics? In this seminar-style class, we will cover the recent research literature trying to answer this question. We will learn how state-of-the-art models like CNNs, RNNs, GCNs, GANs, etc. have been applied to solve significant problems in genomics and what unique challenges are presented by the data in this field.

Fall CSCI2952G S01 17505 TTh 1:00-2:20(06) (R. Singh)

CSCI 2980. Reading and Research.

Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

CSCI 2990. Thesis Preparation.

For graduate students who have met the residency requirement and are continuing research on a full time basis.

Fall CSCI2990 S01 16100 Arranged "To Be Arranged"
Spr CSCI2990 S01 24853 Arranged "To Be Arranged"

CSCI XLIST. Courses of Interest to Concentrators in Computer Science.

Data Science

DATA 0080. Data, Ethics and Society.

A course on the social, political, and philosophical issues raised by the theory and practice of data science. Explores how data science is transforming not only our sense of science and scientific knowledge, but our sense of ourselves and our communities and our commitments concerning human affairs and institutions generally. Students will examine the field of data science in light of perspectives provided by the philosophy of science and technology, the sociology of knowledge, and science studies, and explore the consequences of data science for life in the first half of the 21st century. Fullfillls requirement for Certificate in Data Fluency

Fall DATA0080 S01 18455 MWF 9:00-5:50(09) (L. Clark)

DATA 1030. Hands-on Data Science.

Develops all aspects of the machine learning pipeline: data acquisition and cleaning, handling missing data, exploratory data analysis, visualization, feature engineering, modeling, interpretation, presentation in the context of real-world datasets. Fundamental considerations for data analysis are emphasized (the bias-variance tradeoff, training, validation, testing). Classical models and techniques for classification and regression are included (linear and logistic regression with regularization, support vector machines, decision trees, random forests, XGBoost). Uses the Python data science ecosystem (e.g., sklearn, pandas, matplotlib). Prerequisites:

For up-to-date course information please visit Courses@Brown.edu (https://cabs.brown.edu).
A course equivalent to CSCI 0050, CSCI 0150 or CSCI 0170 are strongly recommended.

**DATA 1050. Data Engineering.**
The course will cover the storage, retrieval, and management of various types of data and the computing infrastructure (such as various types of databases and data structures) and algorithmic techniques (such as searching and sorting algorithms) and query languages (such as SQL) for interacting with data, both in the context of transaction processing (OLTP) and analytical processing (OLAP). Students will be introduced to measures for evaluating the efficacy of different techniques for interacting with data (such as ‘Big-Oh’ measure of complexity and the number of I/O operations) and various types of indexes for the efficient retrieval of data. The course will also cover several components of the Hadoop ecosystem for the processing of “big data.” Additional topics include cloud computing and NoSQL databases. Introduction to concepts and techniques of computer science essential for data science will also be covered.

Fall DATA1050 S01 18459 MWF 11:00-11:50(16) (S. Pradhan)

**DATA 1150. Data Science Fellows.**
DATA 1150 for juniors and seniors possessing data science skills, seeking to apply these skills and collaborate with faculty to integrate data science content into Brown courses. The course teaches communication, teaching and learning strategies, and determining project requirements. Qualified students have a combination of programming experience (intermediate level or above in R or Python), statistical knowledge (intermediate level or above) and knowledge of how data and computing can be used in applied fields. Students in the data science certificate must have DATA 0200 prior to DATA 1150. Students need to complete the application (url below) no later than August 1st for consideration. Qualified students must participate in an interview with the instructor and override requests will be granted only to students by instructor approval. https://forms.gle/Je3przzs3NDE04eG9

Fall DATA1150 S01 18460 TTh 1:00-2:00(08) (L. Clark)

**DATA 2050. Data Science Practicum.**
The capstone experience is a hands-on thesis project that entails an indepth study of a current problem in data science. Students will synthesize their knowledge of probability and statistics, machine learning, and data and computational science. A faculty member from one of the four core DSI departments (Applied Mathematics, Biostatistics, Computer Science, Mathematics) will oversee the capstone course. Students may collaborate with an additional faculty member, postdoc, or industry partner on projects. DATA 1010 and DATA 1030 are recommended pre-requisites.

Fall DATA2050 S01 18302 Arranged (S. Pradhan)

**DATA 2980. Research in Data Science.**
Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

**Early Cultures**

**ERLY 1970. Individual Study Project.**
Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

**ERLY 1990. Thesis Preparation.**
Required of seniors in the honors program. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

**Center for the Study of the Early Modern World**

**EMOW 0062. Dutch and Flemish Art: Visual Culture of the Netherlands in the Seventeenth Century (HIST 0062).**
Interested students must register for HIAA 0062.

Fall EMOW0062 S01 18808 Arranged "To Be Arranged"

**EMOW 1825F. Nature, Knowledge, and Power in Early Modern Europe (HIST 1825F).**
Interested students must register for HIST 1825F.

Fall EMOW1825F S01 18809 Arranged "To Be Arranged"

**EMOW 1964F. Early Modern Ireland (HIST 1964F).**
Interested students must register for HIST 1964F.

Fall EMOW1964F S01 18806 Arranged "To Be Arranged"

**EMOW 1980. Independent Study in EMOW.**
Tutorial instruction on a topic in the Renaissance or early modern period, supervised by a member of the core faculty. This section may be used by concentrators for the required Independent Project undertaken in the junior or senior year. Section numbers vary by professor; instructor permission required.

**East Asian Studies**

**Chinese**

**CHIN 0100. Basic Chinese.**
A year-long introduction to Standard Chinese (Mandarin). Speaking, reading, writing, and grammar. Five classroom meetings weekly. This is the first half of a year-long course whose first semester grade is normally a temporary one. Neither semester may be elected independently without special written permission. The final grade submitted at the end of course work in CHIN 0200 covers the entire year and is recorded as the final grade for both semesters.

Fall CHIN0100 S01 16823 MWF 9:00-10:00(02) (L. Jiao)

Fall CHIN0100 S02 16824 MWF 10:00-11:00(02) (L. Jiao)

Fall CHIN0100 S03 16825 MWF 11:00-12:00(02) (L. Jiao)

**CHIN 0200. Basic Chinese.**
A year-long introduction to Standard Chinese (Mandarin). Speaking, reading, writing, and grammar. Five classroom meetings weekly. This is the second half of a year-long course. Students must have taken CHIN 0100 to receive credit for this course. The final grade for this course will become the final grade for CHIN 0100. If CHIN 0100 was taken for credit then this course must be taken for audit. If taken as an audit, this course must also be taken as an audit. Exceptions to this policy must be approved by both the academic department and the Committee on Academic Standing.

Spr CHIN0200 S01 25999 MWF 9:00-10:00(02) (L. Jiao)

Spr CHIN0200 S02 26003 MWF 10:00-11:00(02) (L. Jiao)

Spr CHIN0200 S03 26004 MWF 11:00-12:00(02) (L. Jiao)

Spr CHIN0200 S04 26005 MWF 12:00-1:00(02) (L. Jiao)

Spr CHIN0200 S05 26006 MWF 1:00-2:00(02) (L. Jiao)

Spr CHIN0200 S06 26007 MWF 2:00-3:00(02) (L. Jiao)

**CHIN 0300. Intermediate Chinese.**
An intermediate course in Standard Chinese designed to further communicative competence and to develop reading and writing skills. Five classroom meetings weekly. Prerequisite: CHIN 0200 or permission of instructor.

Fall CHIN0300 S01 16859 MWF 12:00-13:00(03) (W. Chen)

Fall CHIN0300 S02 16860 MWF 13:00-14:00(03) (W. Chen)

Fall CHIN0300 S03 16861 MWF 14:00-15:00(03) (W. Chen)

Fall CHIN0300 S04 16862 MWF 15:00-16:00(03) (W. Chen)

For up-to-date course information please visit Courses@Brown.edu (https://cabs.brown.edu).
CHIN 0400. Intermediate Chinese.
An intermediate course in Standard Chinese designed to further
communicative competence and to develop reading and writing skills. Five
classroom meetings weekly. Prerequisite: CHIN 0300 or permission of
instructor.
Spr CHIN0400 S01 26007 MWF 12:00-12:50(01) (W. Chen)
Spr CHIN0400 S01 26007 TTh 12:00-12:50(01) (W. Chen)
Spr CHIN0400 S02 26008 MWF 1:00-1:50(06) (W. Chen)
Spr CHIN0400 S02 26008 TTh 1:00-2:00(06) (W. Chen)
Spr CHIN0400 S03 26009 MWF 2:00-2:50(07) (W. Chen)
Spr CHIN0400 S03 26009 TTh 2:30-3:20(07) (W. Chen)

CHIN 0450. Advanced Chinese for Heritage Learners.
This course is primarily designed for Chinese heritage students who have
successfully completed CHIN 0350. If you have not taken CHIN0350,
please contact the instructor for a proficiency evaluation. Upon completing
this course, you can take CHIN 0700 or equivalent, i.e. courses that have
a prerequisite of CHIN 0600. This is an advanced-level course offering
comprehensive work on all four language skills, with a focus on developing
your ability to use sophisticated grammatical structures, vocabulary, and
improving your reading and speaking skills. Materials used in this course
will include a textbook, supplementary articles, and video clips.
Spr CHIN0450 S01 26018 TTh 12:00-12:50(03) (L. Hu)
Spr CHIN0450 S01 26018 MWF 10:00-10:50(03) (L. Hu)

CHIN 0500. Advanced Modern Chinese I.
An advanced course designed to enable students to read authentic
materials. Students enhance their listening, speaking, reading, and writing
skills; improve their narrative and descriptive abilities; and learn to express
abstract ideas both orally and in writing. Five classroom meetings weekly.
Prerequisite: CHIN 0250 or CHIN 0400 or permission of instructor.
Fall CHIN0500 S01 16862 MWF 9:00-9:50(11) (L. Su)
Fall CHIN0500 S01 16862 TTh 9:00-9:50(11) (L. Su)
Fall CHIN0500 S02 16863 MWF 11:00-11:50(11) (L. Su)
Fall CHIN0500 S02 16863 TTh 11:00-11:50(11) (L. Su)
Fall CHIN0500 S03 16864 MWF 12:00-12:50(11) (L. Su)
Fall CHIN0500 S03 16864 TTh 12:00-12:50(11) (L. Su)

CHIN 0600. Advanced Modern Chinese II.
An advanced course designed to enable students to read authentic
materials. Students enhance their listening, speaking, reading, and writing
skills; improve their narrative and descriptive abilities; and learn to express
abstract ideas both orally and in writing. Five classroom meetings weekly.
Prerequisite: CHIN 0500 or permission of instructor.
Spr CHIN0600 S01 26011 MWF 9:00-9:50(02) (L. Su)
Spr CHIN0600 S01 26011 TTh 9:00-9:50(02) (L. Su)
Spr CHIN0600 S02 26012 MWF 11:00-11:50(04) (L. Su)
Spr CHIN0600 S02 26012 TTh 11:00-11:50(04) (L. Su)
Spr CHIN0600 S03 26013 MWF 12:00-12:50(01) (L. Su)
Spr CHIN0600 S03 26013 TTh 12:00-12:50(01) (L. Su)

CHIN 0700. Advanced Modern Chinese II.
This course is designed to enhance the Chinese proficiency of those who have
taken Advanced Modern Chinese I (CHIN 0600) or the equivalent. All
four language skills are emphasized through selected authentic materials.
At the end of the year, students should be able to express their ideas with
sophistication and nuance. Drills on complex sentence patterns will be
helped students gain a basic understanding of China’s current economic
situation, business practices and workplace culture. The learning materials
are adapted from authentic documents, business news reports, career
reality shows, as well as MBA textbooks. The topics include case studies
of Chinese and international companies, Chinese business culture, cross-
cultural comparisons and job interview techniques.
It is expected that after completing this course, students will improve their
four skills of listening, speaking, reading and writing in Chinese, be able
to use professional terminology to participate in discussions on economic
and business issues, and write simple business analysis reports. Students
will also learn to search for information and conduct research on Chinese
websites.
Spr CHIN0911 S01 26020 TTh 2:30-3:50(11) (Y. Wang)

CHIN 0912. Chinese Language and Culture.
This course is designed for advanced learners of Chinese to enhance their
language proficiency, as well as to grasp essential skills to observe and
appreciate Chinese culture from the perspective of language, especially
through Chinese radicals, idioms, proverbs, taboo, verses, vernacular
language and internet language. The teaching methods include lecture, case
studies, and heuristic approach etc. After taking this course, students are expected to have much deeper understanding of
Chinese language and culture and be able to use the language in a near
native and artistic way.
Fall CHIN0912 S01 16063 TTh 2:30-3:50(12) "To Be Arranged"

CHIN 1040. Modern Chinese Literature.
Introduces students to the most representative writers in 20th century
China. Emphasizes textual and historical analyses. Major issues include
Westernization, nationalism, revolution, class, gender, and literary
innovations. Designated primarily as a literature course, rather than
language class, and conducted entirely in Mandarin Chinese. Prerequisite:
CHIN 0800. Instructor permission required.
Spr CHIN1040 S01 25841 F 3:00-5:30(15) (L. Wang)

CHIN 2450. Exchange Scholar Program.
Fall CHIN2450 S01 16089 Arranged "To Be Arranged"

East Asian Studies

EAST 0010. Beyond Orientalism: Understanding “East Asia”.
This course explores the cultural and ideological foundations of the
region we call “East Asia,” from prehistoric times to the present day. After
interrogating the colonial origins of the Euro-American concept of “East
Asia,” we will examine the historical distinctions, interactions, and mutual
influences that shaped the regions and peoples now associated with the
countries of China, Japan, and Korea. In addition to systems of status
and political power, the course will expose students to the rich religious,
literary, and artistic traditions developed within and across the East Asian
region.
Spr EAST0010 S01 25846 TTh 2:30-3:50(11) (B. Bossier)

EAST 0140. Childhood and Culture in Japan.
This seminar offers students an interdisciplinary look at how children
became central to social life in modern Japan. What set of historical and
philosophical conditions made childhood newly visible in the late 19th
century? How has the relationship between the marketplace and childhood
ever evolved over the past hundred years? How have class, gender, ethnicity
and sexuality inflected the ways childhood has been experienced?
Students will analyze different cultural texts for and about children (early
tale books, comic books, propaganda, film) in relation to critical essays
drawn from a variety of disciplines.
Fall EAST0140 S02 16991 MW 8:30-10:50(09) (S. Perry)

EAST 0305. China Modern: An Introduction to the Literature of
Twentieth-Century China.
A general introduction to modern and contemporary Chinese literature
from the May Fourth Movement to contemporary Taiwan and the People’s
Republic of China. Emphasizes reading of literary works in relation
to topics such as cultural tradition, modernity, nationalism, revolution,
class, gender, region, cultural commodification, and literary innovations.
Readings in English. No previous knowledge of Chinese required.
Fall EAST0305 S01 16814 TTh 2:30-3:50(12) (L. Wang)

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).

Brown University
Course Descriptions

This is a critical introduction to the history of mainland Chinese film. It focuses on three dimensions of cinematic practice: the historical context of film productions, the specific context/form of each film, and the critical reception of Chinese films in film studies. Important themes such as nation, visual modernity, cinematic narrative, and commercialism will be studied across the three dimensions.
Spr 2023

This course is an introduction to Japanese culture and aesthetics as represented in pre-modern literature, drama, tea practices, landscape and the fine arts. Recurring themes include Japanese attitudes toward the natural world; traditional conceptions of beauty; and the function of ritual in artistic cultivation. The course is designed for students who have no previous exposure to Japanese studies at the college level; no prerequisites.
Fall 2023

EAST 0533. Beyond Gangnam Style: Seoul, Dislocation, and the Search for Place.
Seoul has become a celebrated cultural hub both within Asia and globally. However, underneath the glitter of modernity visible in the urban sprawl of Seoul’s “Gangnam Style” are forgotten stories, stratified claims, and a tumultuous history covering 35 years of Japanese rule, a war, and the ongoing presence of 28,500 American troops. This course will take an interdisciplinary approach to Seoul incorporating history, urban culture, literature and visual media, and engage key concepts informing the burgeoning field of Korean studies. Attention will be given to contestations over space, IT infrastructure, architectural spaces, and the emergence of new subjectivities.
Fall 2023

EAST 1307. Sex and Society in Modern China.
This course traces changing gender relations across China’s “long twentieth century.” We begin by examining lives and relationships of men and women in the late nineteenth century, before the fall of the Qing dynasty. We then investigate the ways that external and indigenous forces have changed (or not) gender relationships during the rapid and often violent transitions of the twentieth century, from the Republican period (1911-1949) to the People’s Republic; from the Nanjing Decade (1927-37) to the Maoist period (1950-1976) and the period of economic reform (1976-present day). Why did Chinese politicians see the reform of family and gender relations as central to their larger political goals? What were the “new” gender relations supposed to be? How was gender reform carried out (or not) and what were its effects, intended and unintended?
Fall 2023

Introduces a linguistic analysis of Japanese language to attain an overview of structure and a foundation for understanding how grammar relates to various modes of communication. Topics include discourse analysis, pragmatics, communicative intention, communication strategies, and intercultural communication gaps. Linguistic data is drawn from films and fiction. Prerequisite: basic knowledge of Japanese grammar, vocabulary, and linguistics. Enrollment limited to 20.
Fall 2023

EAST 1502. The Korea Brand: Understanding KPop, Film, and Culture of the Two Koreas in the Global Context.
The global media has recently showcased two newsworthy events related to Korea: BTS at the 2018 BMAs, and the Inter-Korea Summit. This course examines the arrival of “Korea” globally, from the West’s fascination with the North Korean nuclear crises, to the hype around KPop, KFilm, cosmetics, food, and eSports. We will question the fascination with NK in US media outlets, versus its treatment in SK media. The ways in which the particular, local, and authentic, within Korean cultural production negotiates the global market is of particular interest.
Fall 2023

EAST 1563. Korean Film and Culture: The Appeal of Korean Film.
This introductory course offers an overview of Korean film production from its colonial beginnings to the present, linking film with major historical, political and cultural events or shifts over the past century. Topically organized, the course will explore issues of cultural identity in the ways that the domestic movie industry has interacted with the foreign filmic audience. Focusing on how film narratives can influence (rather than reflect) social reality, we will analyze the imagination and construction of national identity and cultural tradition (and its critique) across these films.
Spr 2023

EAST 1703. Brush Talk: Reading/Writing Across “Sinographic” East Asia.
Chinese logographic (or “sinographic”) writing underpins literary and intellectual cultures across East Asia. From antiquity until well into the twentieth century and even today, this “scripta franca” served as a medium that facilitated communication among speakers of unrelated languages and as a conduit for information, values, concepts, and tropes. Stretching from Vietnam to Korea and from Japan to Inner Asia, the so-called “sinographic sphere” has been vaunted as a “literary cosmopolis” and a “world without translation,” yet it is also an uneven terrain of imbalanced flows and a site out of which local literacies and eventual national languages carved their autonomy. In this seminar we will attend to watershed moments from a wider East Asian history of literacy and inscription—as well as to recurrent attempts to theorize and critique an ecumene of Chinese letters.
Spr 2023

EAST 1704. Anarchisms in Asia and Beyond.
This course examines the transnational legacy of anarchist thought and action as it emerged in various places in Asia from the 19 th century onward. We will explore anarchism as a worldly phenomenon rather than an import from ‘the West’ – paying special attention to how it emerged out of connections between aristocrats, commoners, colonial bureaucrats, plantation workers, first-wave feminists, and ethnographers in Japan, China, Philippines, Indonesia, Australia, and elsewhere. Working with primary source materials will give you a taste of what it is like to be a scholar of transnational intellectual history – a detective and storyteller in one.
Fall 2023

EAST 1910. Independent Study.
Sections numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

EAST 1936. Memory and Justice in East Asia.
How does history affect the present, the political, the social, and the personal around East Asia? What are the social mechanisms and frameworks of affect and knowledge that have shaped historical memories of humiliation, violence, trauma, and culpability? This seminar focuses on several key topics to explore modern modes of remembering and justice seeking including: mapping memory; imperialism and the museum; wartime conduct and war crimes trials; political violence and transitional justice; and grassroots organizing, community justice, ritual actions, and other non-state memory work. Final projects can be web portfolios or podcasts on an event or phenomenon of your choice.
Fall 2023

Prior admission to honors candidacy required. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

EAST 2450. Exchange Scholar Program.
Fall 2024

EAST XLIST. Courses of Interest to Concentrators.
Spring 2024

Comparative Literature
COLT 07110 Off the Beaten Path: Fiction in Modern Japan Literature
Japanese

JAPN 0100. Basic Japanese.
Introduction to Japanese language. Emphasizes the attainment of good spoken control of Japanese and develops a foundation of literacy. No prerequisites. This is the first half of a year-long course whose first semester grade is normally a temporary one. Neither semester may be elected independently without special written permission. The final grade submitted at the end of the course work in JAPN 0200 covers the entire year and is recorded as the final grade for both semesters. The East Asian Studies department wishes to provide language instruction to all interested students. If you are unable to register for this course due to enrollment limits but are dedicated to learning Japanese, please contact the instructor via email.

Fall JAPN0100 S01 16798 MWF 9:00-9:50(07) (N. McPherson)
Fall JAPN0100 S02 16799 TTh 9:00-10:20(07) (N. McPherson)
Fall JAPN0100 S03 16800 TTh 9:00-10:30(07) (N. McPherson)
Fall JAPN0100 S04 16801 TTh 9:00-10:50(07) (N. McPherson)
Fall JAPN0100 S05 16802 TTh 9:00-11:10(07) (N. McPherson)
Fall JAPN0100 S06 16803 TTh 9:00-11:30(07) (N. McPherson)
Fall JAPN0100 S07 16804 TTh 9:00-11:50(07) (N. McPherson)

JAPN 0200. Basic Japanese.
Introduction to Japanese language. Emphasizes the attainment of good spoken control of Japanese and develops a foundation of literacy. This is the second half of a year-long course. Students must have taken JAPN 0100 to receive credit for this course. The final grade for this course will become the final grade for JAPN 0100. If JAPN 0100 was taken for credit then this course must be taken for credit; if taken as an audit, this course must also be taken as an audit. Exceptions to this policy must be approved by both the academic department and the Committee on Academic Standing. The East Asian Studies department wishes to provide language instruction to all interested students. If you are unable to register for this course due to enrollment limits but are dedicated to learning Japanese, please contact the instructor via email.

Spr JAPN0200 S01 26021 MWF 9:00-9:50(02) (A. Borgmann)
Spr JAPN0200 S02 26021 TTh 9:00-10:20(02) (A. Borgmann)
Spr JAPN0200 S03 26022 MWF 10:00-10:50(03) (A. Borgmann)
Spr JAPN0200 S04 26022 TTh 10:00-11:20(03) (A. Borgmann)
Spr JAPN0200 S05 26023 MWF 11:00-11:50(04) (A. Borgmann)
Spr JAPN0200 S06 26023 TTh 11:00-12:20(04) (A. Borgmann)
Spr JAPN0200 S07 26024 MWF 11:00-12:00(05) (A. Borgmann)
Spr JAPN0200 S08 26024 TTh 12:30-1:50(05) (A. Borgmann)
Spr JAPN0200 S09 26025 MWF 1:00-1:50(05) (A. Borgmann)

Further practice of patterns and structures of the language. Readings are introduced on aspects of Japanese culture and society to develop reading and writing skills, enhance vocabulary, and provide points of departure for conversation in Japanese. Prerequisite: JAPN 0200 or equivalent. The East Asian Studies department wishes to provide language instruction to all interested students. If you are unable to register for this course due to enrollment limits but are dedicated to learning Japanese, please contact the instructor via email.

Fall JAPN0300 S01 16805 MWF 11:00-11:50(07) (N. Tatsumi)
Fall JAPN0300 S02 16805 TTh 11:00-11:50(07) (N. Tatsumi)
Fall JAPN0300 S03 16806 MWF 12:00-12:50(07) (N. Tatsumi)
Fall JAPN0300 S04 16806 TTh 12:00-12:50(07) (N. Tatsumi)
Fall JAPN0300 S05 16807 MWF 3:00-3:50(07) (N. Tatsumi)
Fall JAPN0300 S06 16807 TTh 3:00-3:50(07) (N. Tatsumi)

See Intermediate Japanese (JAPN 0300) for course description. Prerequisite: JAPN 0300 or equivalent. Enrollment limited to 18.

Spr JAPN0400 S01 26027 MWF 11:00-11:50(04) (A. Yamakawa)
Spr JAPN0400 S02 26027 TTh 11:00-11:50(04) (A. Yamakawa)
Spr JAPN0400 S03 26028 MWF 12:00-12:50(01) (A. Yamakawa)

JAPN 0500. Advanced Japanese I.
Continued practice in reading, writing, and speaking. Emphasizes the development of reading proficiency and speaking in cultural contexts. Students read actual articles and selections from Japanese newspapers. Course includes translation, with writing and discussion in Japanese. Films and video tapes are shown as supplementary materials. Prerequisite: JAPN 0400 or equivalent.

Fall JAPN0500 S01 16808 MWF 10:00-10:50(07) (A. Yamakawa)
Fall JAPN0500 S02 16808 TTh 12:00-12:50(07) (A. Yamakawa)
Fall JAPN0500 S02 16809 MWF 1:00-1:50(07) (A. Yamakawa)
Fall JAPN0500 S02 16809 TTh 1:00-1:50(07) (A. Yamakawa)

JAPN 0600. Advanced Japanese I.
See Advanced Japanese I (JAPN 0500) for course description.

Spr JAPN0600 S01 26030 MWF 10:00-10:50(03) (A. McPherson)
Spr JAPN0600 S02 26030 TTh 12:00-12:50(03) (A. McPherson)
Spr JAPN0600 S02 26031 MWF 1:00-1:50(06) (A. McPherson)
Spr JAPN0600 S02 26031 TTh 1:00-1:50(06) (A. McPherson)

JAPN 0700. Advanced Japanese II.
Reading of articles from Japan's press with discussion in Japanese. Focuses on explanations and drills on the fine points in grammar and vocabulary as well as on the practice of writing in various styles. Movies and video tapes are used as supplementary materials. Prerequisite: JAPN 0600 or equivalent.

Fall JAPN0700 S01 16811 MWF 2:00-2:50(01) (S. Hiramatsu)

This course will provide a structural overview of the Japanese language. Students will learn how to develop skills for analyzing the language through looking at sounds, meaning, and grammar. Topics include linguistic analysis of various sentence structures that students often find difficult to use, learning to choose words and sentences in appropriate situations, looking at the relation between language and culture.

Spr JAPN0711 S01 25845 MWF 12:00-12:50(01) (K. Yamashita)

JAPN 0800. Advanced Japanese II.
See Advanced Japanese II (JAPN 0700) for course description.

Spr JAPN0800 S01 26035 MWF 2:00-2:50(07) (S. Hiramatsu)

Introduction to classical Japanese language (kobun), a.k.a. literary Japanese (bungo). Based on the Early Middle Japanese of 9th- through-11th-century aristocrats, this language was in use well into the 20th century. It opens the worlds of storytelling noblemen, poet-monks, love-stricken samurai, and modern Japan's “founding fathers.” Its grammar reveals new ways to think about time, action, and experience. Its study affords you an enhanced command of the contemporary language. Parsing authentic passages from famous works, we learn to read premodern Japanese texts with the aid of dictionaries, commentaries, and digital resources.

Prerequisites: This course is taught in English with an English-language textbook, although some supplemental resources are available only in modern Japanese. At minimum, completion of (or simultaneous enrolment in) intermediate modern Japanese is recommended. If in doubt, consult with instructor.

Fall JAPN0810 S01 16810 TTh 1:00-2:20(06) (K. Yamashita)

JAPN 1010. Readings in Contemporary Japanese Fiction.
Introduces contemporary short stories and novellas by award winning writers published after 2000. Authors include Yoko Ogawa, Natsuo Kirino, Jiro Asada, Bin Kono. We will analyze why the great many readers are drawn into these literary works through socio cultural background of urban communities. Prerequisites: JAPN0700 or instructor permission.

Spr JAPN1010 S01 25844 F 3:00-3:50(15) (K. Yamashita)

Korean

KREA 0100. Korean.
Begins with an introduction to the Korean writing system (Hangul) and focuses on building communicative competence in modern Korean in the
four language modalities (listening, speaking, reading, writing). Provides a foundation for later work in spoken and written Korean. Five classroom hours per week. No prerequisite. Enrollment limited to 18. This is the first half of a year-long course whose first semester grade is normally a temporary one. Neither semester may be elected independently without special written permission. The final grade submitted at the end of the course work in KREA 0200 covers the entire year and is recorded as the final grade for both semesters.

Fall KREA0100 S01 16976 MWF 9:00-9:50(07) (H. Jung)
Fall KREA0100 S01 16976 TTh 9:00-9:50(07) (H. Jung)
Fall KREA0100 S02 16977 TTh 11:00-11:50(07) (H. Jung)
Fall KREA0100 S02 16977 MWF 11:00-11:50(07) (H. Jung)
Fall KREA0100 S03 16978 MWF 2:00-2:50(07) (H. Jung)
Fall KREA0100 S03 16978 TTh 2:00-2:50(07) (H. Jung)

KREA 0200. Korean.

KREA 0200 is designed for absolute beginners or students with very little prior knowledge of Korean. It aims to build up a solid foundation of pronunciation and grammar for your Korean language studies and allow you to feel confident in communicating about everyday situations. This course will get you speaking, listening, writing, reading, and understanding the aspects of Korean culture through authentic conversations, language presentation, and extensive practice and review.

Prerequisite: KREA 0300 or equivalent.

Fall KREA0200 S01 26105 MWF 9:00-9:50(02) (K. Moon)
Spr KREA0200 S01 26105 TTh 9:00-9:50(02) (K. Moon)
Spr KREA0200 S02 26106 MWF 11:00-11:50(04) (K. Moon)
Spr KREA0200 S02 26106 TTh 11:00-11:50(04) (K. Moon)
Spr KREA0200 S03 26107 MWF 2:00-2:50(07) (K. Moon)
Spr KREA0200 S03 26107 TTh 2:00-2:50(07) (K. Moon)

KREA 0300. Intermediate Korean.

An intermediate course in Korean designed to further communicative competence in spoken Korean and to provide additional reading practice in stylistically higher level materials that are progressively integrated into the given dialogues. Discussions on various aspects of Korean culture and society. Five classroom hours per week. Prerequisite: KREA 0200 or instructor permission.

Fall KREA0300 S01 16979 MWF 12:00-12:50(03) (K. Moon)
Fall KREA0300 S01 16979 TTh 12:00-12:50(03) (K. Moon)
Fall KREA0300 S02 16980 MWF 1:00-1:50(03) (K. Moon)
Fall KREA0300 S02 16980 TTh 1:00-1:50(03) (K. Moon)


KREA 0400 is designed for students who have completed the second semester of Vietnamese VIET 0200 or have an equivalent level of proficiency. This course will expand your structures and knowledge of the Vietnamese language and multifaceted culture through idioms, proverbs, dialogues, and stories. Classroom activities and practices will help you communicate effectively and absorb meaning through speaking, listening, reading, and writing.

Prerequisite: KREA 0300 or equivalent.

Spr KREA0400 S01 26198 MWF 12:00-12:50(01) (K. Moon)
Spr KREA0400 S01 26198 TTh 12:00-12:50(01) (K. Moon)
Spr KREA0400 S02 26199 MWF 1:00-1:50(06) (K. Moon)

KREA 0500. Advanced Korean.

KREA 0500. Advanced Korean.

KREA 0500 is designed for students who have completed the third semester of Vietnamese VIET 0300 or have an equivalent level of proficiency. This course will expand your structures and knowledge of the Vietnamese language and multifaceted culture through idioms, proverbs, dialogues, and stories. Classroom activities and practices will help you communicate effectively and absorb meaning through speaking, listening, reading, and writing.

Prerequisite: KREA 0400 or equivalent or permission of instructor.

Spr KREA0500 S01 16981 MWF 12:00-12:50(15) (H. Wang)

KREA 0600. Advanced Korean.

KREA 0600 is designed for students who have completed the third semester of Vietnamese VIET 0300 or have an equivalent level of proficiency. This course will expand your structures and knowledge of the Vietnamese language and multifaceted culture through idioms, proverbs, dialogues, and stories. Classroom activities and practices will help you communicate effectively and absorb meaning through speaking, listening, reading, and writing.

Spr KREA0600 S01 26200 MWF 12:00-12:50(01) (H. Wang)


VIET 0400. Intermediate Vietnamese.

VIET 0400. Intermediate Vietnamese.

VIET 0400. Intermediate Vietnamese.

VIET 0400. Intermediate Vietnamese.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
histories are compared to gain insight and a new perspective on planet Earth.

EEPS 0070. Introduction to Oceanography
Examines the ocean’s role in Earth’s global environment, emphasizing the dynamical interaction of the ocean with the atmosphere, biosphere, cryosphere, and lithosphere. Focus on physical/chemical/biological systems’ interconnections needed to understand natural and anthropogenic variability on various time and space scales, from El Niño to global warming. Three lectures, written exercises on oceanographic problems; two field trips to study estuarine and coastal processes.

EEPS 0220. Understanding Earth and Environmental Processes
How does plate tectonics create mountains, earthquakes and volcanoes? What processes drive climate change? How do humans exacerbate flooding? This course provides an introduction to the processes that shape the Earth’s surface, govern the structure of its interior, cause natural hazards, contribute to climate change and affect the human environment. Topics include interior processes (plate tectonics, mountain building, volcanism, earthquakes, flow of solid rocks), environmental processes (climate change, atmospheric and oceanic circulation, flow of rivers, glaciers, groundwater, water and energy resources), and the connections between them. Lectures are complemented by three labs, informal small-group study sessions, and field trips. Collaborative learning is encouraged. Enrollment is limited to 100.

EEPS 0240. Earth: Evolution of a Habitable Planet
Introduces Earth’s surface environment evolution - climate, chemistry, and physical makeup. Uses Earth’s carbon cycle to understand solar, tectonic, and biological cycles’ interactions. Examines the origin of the sedimentary record, dating of the geological record, chemistry and life on early Earth, and the nature of feedbacks that maintain the “habitable” range on Earth. Two field trips; five laboratories arranged.

EEPS 0250. Computational Approaches to Modelling and Quantitative Analysis in Natural Sciences: An Introduction
Application of numerical analysis to mathematical modelling in the natural sciences including topics such as ground water and glacier flow, earthquakes, climate models, phase equilibrium, and population dynamics. Numerical methods will include the solution of linear algebraic systems of equations, numerical integration, solution of differential equations, time series analysis, statistical data analysis tools. Development of computer programming skills in the Matlab programming environment. Suggested prerequisites: MATH 0090, 0100; PHYS 0030, 0040, or 0050, 0060.

EEPS 0350. Mathematical Methods of Fluid
Intended for undergraduates concentrating in geological and physical sciences or engineering, especially those interested in the quantitative study of Earth. Problem sets will cover common approaches to quantify the dynamics and chemistry of solids and fluids in nature. Mathematical topics to be introduced include linear algebra, vectors and tensors, differential equations, dynamical systems, eigenvalues and eigenvectors, empirical orthogonal functions, fractals, chaos, and statistics. Applications include waves in the oceans, atmosphere, and solid earth, convective and conductive heat flow, reaction rates, gravitational potential energy, Newton’s laws on a rotating planet, measuring coastlines and ranges, and dating errors in stratigraphy.

EEPS 0830. Water in Our World
This course will focus on understanding natural and societal dimensions of the water cycle. The coming century will see substantial pressure on global water resources owing to increasing human demand, alteration of river systems, and climate change. The first half of the course introduces fundamental concepts in physical hydrological science, and the second explores human modifications and environmental problems associated with a perturbed water cycle. The topical sequence of the class will progress first through different components of the water cycle (e.g. precipitation, evaporation, runoff), followed by different ways in which humans use and depend upon freshwater resources.
persists. Indeed, scientific findings are regularly contested on political grounds. The purpose of this course is to learn how to apply diverse knowledge from Indigenous to Modern to map the relevant policy problems at the intersection of human rights and environmental integrity, and to develop approaches to address them in ways that are creative, effective, responsible, and just. Students are admitted in the following order: capstone fulfillment, core requirements, EEPS or ENVS concentrator, and others, in the order received in each category. Fall EEPS1618 S01 18484 TTh 2:30-3:20(12) (A. Lynch)

EEPS 1970. Individual Study of Geologic Problems. One semester is required for seniors in Sc.B. and honors program. Course work includes preparation of a thesis. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course. Enrollment is restricted to undergraduates only.

EEPS 2300. Mathematical and Computational Earth Sciences. For graduate students interested in quantitative study of the Earth in geological, physical, or engineering sciences. Mathematical topics to be introduced include tensor analysis, asymptotic and perurbation analysis of differential equations, numerical integration of differential equations, basis functions and pattern recognition, fractals and multifractals, and statistics. Applications will vary by offering, but examples include: statistics of turbulence and earthquakes, advection-reaction-diffusion systems, boundary layers, development of shocks and singularities, climate change, carbon sensitivity, and dimensional reduction of geophysical data. Intensive review of introductory mathematical methods through leading discussions in a lower level class. Earth, fluid, or solid science background recommended. Fall EEPS2300 S01 18766 MW 4:00-5:20 (B. Fox-Kemper)

EEPS 2450. Exchange Scholar Program.

EEPS 2920D. Introduction to Geochemical Modeling. Continuum descriptions of mass transfer in geochemical cycles. Topics include: fundamentals of diffusive and advective mass transfer, kinetics of weathering and early diagenesis, fluid flow in the Earth's crust and mantle, trace elements and isotopes in magmatic processes. Recommended: CHEM 0330, EEPS 1610 and APMA 0330, 0340. Fall EEPS2920DS01 18482 TTh 1:00-2:20(06) (Y. Liang)

EEPS 2980. Research in Geological Sciences. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course. Fall EEPS2980 S01 16106 TTh 10:00-11:30(14) (R. Vohra)

EEPS 2990. Thesis Preparation. For graduate students who have met the residency requirement and are continuing research on a full time basis. Fall EEPS2990 S01 16106 Arranged 'To Be Arranged'

Economics

ECON 0110. Principles of Economics. Extensive coverage of economic issues, institutions, and terminology, plus an introduction to economic analysis and its application to current social problems. Required for all economics concentrators. Prerequisite for ECON 110, 1130, 1210 and 1620. Serves as a general course for students who will take no other economics courses and want a broad introduction to the discipline. Weekly one-hour conference required. Fall ECON0110 S01 16238 MWF 9:00-9:50(09) (R. Friedberg)

ECON 0170. Essential Mathematics for Economists. This course teaches the mathematical skills useful for upper level Economics classes. Emphasis is on acquisition of tools, problem solving, intuition, and applications rather than proofs. This course satisfies the mathematics requirement for the Economics concentration, but does not serve as a prerequisite for upper level courses in Math, Applied Math, or other departments. Students planning further courses in these areas should take MATH 0100 or MATH 0170 (which also satisfy the Economics concentration requirement) instead. Ideally, ECON 0170 should be taken before ECON 1110, or at least simultaneously.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
ECON 120. Intermediate Macroeconomics.
The economy as a whole: Level and growth of national income, inflation, unemployment, role of government policy.
Fall ECON1210 S01 17226 MWF 10:00-10:50(18) (K. Forrester)
Fall ECON1210 S02 17227 MWF 1:00-2:00(18) (K. Forrester)
Fall ECON1210 S03 17228 TTh 10:30-11:50(18) (M. Lancaster)
Spr ECON1210 S03 25647 MWF 10:00-10:50(03) (K. Forrester)

The course is concerned with macroeconomic policy in the US, with special focus on the recent economic crisis. The main objective of the course is to introduce students to the type of models and methods used in current research in macroeconomics both in the scholarly literature but also in the practice of central banks and major policy institutions. Events of the financial crisis and the economic recession of 2007-2009 will serve to illustrate the challenges confronted by macroeconomic analysis.
Fall ECON1225 S01 17230 TTh 2:30-3:50(12) (G. Eggertsson)

ECON 130. Labor Economics.
Labor supply, human capital, income inequality, discrimination, immigration, unemployment.
Spr ECON1310 S01 25648 TTh 1:00-2:00(08) (K. Chay)

ECON 1340. Economics of Global Warming.
The problem of global warming can be usefully be described with the following simple economic model. We face a tradeoff between current consumption, future consumption, and future climate, have preferences over consumption and future climate and would like to choose our optimal climate/consumption bundle. This course is organized around filling in the details required to make this model useful, characterizing the optimal climate/consumption path suggested by the model, and finally, investigating policies to achieve the optimal path.
Fall ECON1340 S01 17232 MW 8:30-9:50(09) (M. Turner)

This course considers environmental issues through an economic lens. It is loosely arranged around four questions: why are markets so powerful? Why do markets frequently fail to deliver environmental goods? Can markets be harnessed to deliver environmental goods? If so, why don’t we do that?
Fall ECON1350 S01 17296 MWF 2:00-2:50(01) (A. Poterack)

ECON 1385. Intergenerational Poverty in America.
In the US, the children of poor parents are eight times more likely to grow up to be poor than the children of high-income parents. What accounts for this? In this course we try to answer this question by examining how poverty influences child development and, ultimately, their income and wellbeing in adulthood. We will begin the course with an overview of poverty and intergenerational mobility in America, looking at historical events and geographic endowments in shaping social, political, and cultural factors and the process of development. We will then consider the existing research exploring how a number of factors explain the intergenerational persistence of poverty, including parental time, pollution, infant and child health, the justice system, neighborhoods, stress, and preschool/education systems.
Fall ECON1385 S01 18318 TTh 1:00-2:00(06) (A. Aizer)

ECON 1390. Inequality of Income, Wealth, and Health in the United States.
Inequality of income, wealth, and health, with a focus on the United States. Topics include measurement of inequality, mobility, and poverty; the mapping from individual characteristics to income and wealth; transmission of economic status between generations; the division of national income between capital and labor; factors causing the rise in inequality in the United States since 1980; including technological change and globalization; differential trends in life expectancy, morbidity, and health behaviors among income groups; government policies that impact inequality, including progressive taxation, the minimum wage, support of unionization, public education, and immigration policy; and the political economy of redistributive policies.
Fall ECON1390 S01 17233 MWF 10:00-10:50(14) (D. Weil)

ECON 1410. Urban Economics.
The first part of the course covers the set of conceptual and mathematical models widely used to understand economic activity both between and within cities. The second part of the course examines various urban policy issues including urban transportation, housing, urban poverty, segregation and crime. The course makes extensive use of empirical evidence taken primarily from the United States.
Fall ECON1420 S01 17234 TTh 1:00-2:00(06) (M. Lancaster)
Spr ECON1420 S02 25653 MWF 10:00-10:50(03) (M. Lancaster)

Positive and normative study of the organizations that comprise and the institutional structures that characterize a modern mixed market economy. Theoretical efficiency and potential limitations of private enterprises and markets including (a) why some market actors are organizations (e.g., companies), (b) effort elicitation problems in organizations, (c) the problem of cooperation in traditional versus behavioral economics, and (d) alternative kinds of organization (including proprietors, corporations, nonprofits, government agencies). Roles of government, and problems of government failure, including the collective action problem of democracy. State-market balance and contemporary controversies over the economic system in light of the 2008 financial crisis.
Fall ECON1450 S01 17235 TTh 2:30-3:50(12) (L. Putterman)

ECON 1480. Public Economics.
What is the appropriate role for government in a market economy? How can public policy help or hinder economic outcomes? How do governments choose what policies to pursue? These are the sorts of questions addressed in Public Economics, which uses the tools of economic theory to analyze a wide range of topics, including taxation, public goods, healthcare policy, zoning, voting behavior, and more.
Spr ECON1480 S01 25667 MWF 3:00-4:20(10) (E. Skarbek)

ECON 1490. Designing Internet Marketplaces.
How has the digital economy changed market interactions? The goal of this course is to help you think critically, using economic theory, about the future of the digital economy. What are important economic activities now being conducted digitally? How has digital implementation of these activities changed economists’ classical views and assumptions? What are ways in which we can use economics to engineer “better” digital markets? We will focus on several real-world markets (eg. eBay, Airbnb, Google advertising, Uber, Tender, TaskRabbit) and topics (eg. market entry, pricing, search, auctions, matching, reputation, peer-to-peer platform design).
Fall ECON1490 S01 17238 TTh 10:30-11:50(13) (M. Pakzad-Hurson)

ECON 1520. Culture, History and Comparative Development.
Why are some societies rich and others poor? While typical answers emphasize proximate causes like factor accumulation, technological progress, and demographic change, weighing the shadow of history on contemporary economic performance occupies an increasing part of the agenda among growth and development economists. This course will critically survey the recent empirical literature highlighting the role of historical events and geographic endowments in shaping social, political, and cultural factors and the process of development.
Fall ECON1520 S01 17239 TTh 2:30-3:50(12) (S. Michalopoulos)

ECON 1540. International Trade.
Theory of comparative advantage, trade, and income distribution. Welfare analysis of trade: gains from trade, evaluation of the effects of trade policy instruments-tariffs, quotas, and subsidies. Trade under imperfect
competition. Strategic trade policy. Trade, labor markets, preferential trade agreements, and the world trading systems.
Fall ECON1540 S01 25669 MWF 9:00-9:50(02) (K. Forrester)

ECON 1550. International Finance.
The balance of payments; identification and measurement of surpluses and deficits; international monetary standards; the role of gold and paper money; government policies; free versus fixed exchange rates; international capital movements; war and inflation; the International Monetary Fund.
Fall ECON1550 S01 17240 MWF 1:00-1:50(08) (F. Duarte)

ECON 1570. The Economics of Latin Americans.
This course introduces students to the economic study of Latin Americans (both in the US and abroad). Topics include the determinants of economic development, institutions and growth, imperialism, conflict, immigration and discrimination.
Fall ECON1570 S01 17241 TTh 9:00-10:20(05) (P. Dal Bo)

ECON 1620. Introduction to Econometrics.
Fall ECON1620 S01 17242 TTh 10:30-11:50(04) (T. Kitagawa)
Fall ECON1620 S02 17243 MW 8:30-9:50(04) (E. Macchi)
Spr ECON1620 S01 25671 TTh 1:00-2:20(08) (S. Kwon)

This class will cover the basics of applied research in economics. We will cover how we use economic theory to formulate a hypothesis to test and how we use data to test our hypothesis. As part of the coursework, students will be exposed to topics across multiple fields of applied economic research (e.g., health, labor, political economy, urban economics, development, etc.) that can be explored in greater detail in more advanced classes. Students will read and discuss papers published in professional journals and perform data analysis.
Fall ECON1629 S01 17244 TTh 9:00-10:20(07) (L. Lagos)
Fall ECON1629 S02 17245 TTh 1:00-2:20(07) (L. Lagos)
Spr ECON1629 S02 25674 TTh 1:00-2:20(08) (M. Peceno)

ECON 1630. Mathematical Econometrics I.
Advanced introduction to econometrics with applications in finance and economics. How to formulate and test economic questions of interest. The multivariate linear regression model is treated in detail, including tests of the model's underlying assumptions. Other topics include: asymptotic analysis, instrumental variable estimation, and likelihood analysis. Convergence concepts and matrix algebra are used extensively.
Fall ECON1630 S01 17246 TTh 1:00-2:20(11) (J. Roth)
Fall ECON1630 S02 17247 TTh 9:00-10:20(11) (J. Roth)
Spr ECON1630 S02 25675 TTh 1:00-2-20(08) (A. Norets)

ECON 1680. Machine Learning, Text Analysis, and Economics.
Economists need advanced methods to study data that is complex, high-dimensional, and unstructured. This course highlights key challenges of working with such data in economics and what machine learning and text analysis methods can be used to address them. We will cover applications of unsupervised and supervised learning for both numerical and text data. Students will leave the course with a machine learning project and a text analysis project that will function as a research portfolio they can show future employers or graduate programs. Lectures will introduce students to new material and include discussions of current economics research using machine learning and text analysis methods. Recitation sessions will alternate between two types: first, will be applied exercises demonstrating methods covered in class, and second, will focus on developing writing assignments and providing peer feedback.
Spr ECON1680 S01 25680 M 3:00-5:30(13) (A. Handian)

ECON 1710. Investments I.
The function and operation of asset markets; the determinants of the prices of stocks, bonds, options, and futures; the relations between risk, return, and investment management; the capital asset pricing model, normative portfolio management, and market efficiency.
Fall ECON1710 S01 17248 MWF 11:00-11:50(04) (S. Kuo)
Fall ECON1710 S02 17249 MWF 1:00-1:50(04) (S. Kuo)

Spr ECON1710 S01 25682 MWF 11:00-11:50(04) (S. Kuo)
Spr ECON1710 S02 25683 MWF 1:00-1:50(04) (S. Kuo)

ECON 1720. Corporate Finance.
A study of theories of decision-making within corporations, with empirical evidence as background. Topics include capital budgeting, risk, securities issuance, capital structure, dividend policy, compensation policy, mergers and acquisitions, leveraged buyouts and corporate restructuring.
Fall ECON1720 S01 17250 MWF 9:00-9:50(09) (B. Gibbs)
Spr ECON1720 S01 25685 MWF 9:00-9:50(02) (B. Gibbs)

ECON 1730. Venture Capital, Private Equity, and Entrepreneurship.
This course will use a combination of lectures and case discussions to prepare students to make decisions, both as entrepreneurs and venture capitalists, regarding the financing of rapidly growing firms. The course will focus on the following five areas:
1. Business valuation
2. Financing
3. Venture Capital Industry
4. Employment
5. Exit
Fall ECON1730 S01 17251 TTh 9:00-10:20(05) (R. La Porta)

ECON 1760. Financial Institutions.
This course analyzes the role of financial institutions in allocating resources, managing risk, and exerting corporate governance over firms. After studying interest rate determination, the risk and term structure of interest rates, derivatives, and the role of central banks, it takes an international perspective in examining the emergence, operation, and regulation of financial institutions, especially banks.
Fall ECON1760 S01 17252 MWF 12:00-12:50(15) (B. Gibbs)

ECON 1820. Theory of Behavioral Economics.
This course provides a formal introduction to behavioral economics, focusing mostly on individual decision making. For different choice domains, we start by analyzing the behavior implied by benchmark models used by economists (e.g., rational choice, expected utility, exponential discounting). Experimental and empirical evidence is then used to highlight some limitations of these models, and to motivate new models that have been introduced in order to account for these violations. We will cover, for instance, models of limited attention, non-expected utility, and hyperbolic discounting.
Fall ECON1820 S01 17253 MW 8:30-9:50(09) (G. De Clippel)

Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.
Note this course does not count toward Economics concentration credit.
Fall ECON1960 S01 17255 Arranged (N. Thakral)
Spr ECON1960 S01 25689 Arranged (N. Thakral)

Students intending to write an honors thesis in economics must register for this class. The goal is to help students with the process of developing and writing their thesis. Particular focus will be on data analysis, identifying appropriate literature and testing hypotheses. Each student must find a thesis advisor with interests related to their topic. Students will plan to enroll in this course in both semesters.

Techniques of mathematical analysis useful in economic theory and econometrics. Linear algebra, constrained maximization, difference and differential equations, calculus of variations.
Fall ECON2010 S01 17256 MW 10:30-11:50(16) (A. Poterack)

This course introduces students to basic concepts in software engineering and scientific computing as preparation for conducting frontier research in all fields of economics. Topics in software engineering will include version control, automation, abstraction, parallel processing, and object-oriented programming. Topics in scientific computing and numerical methods will include programming basics, floating-point arithmetic, numerical differentiation and integration, equation-solving, and numerical optimization. Coding will be in Python and applications will focus on topics likely to arise in economics research. Key concepts will be introduced in

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interactive lectures and reinforced in in-class group work and at-home assignments.

Spr ECON2020 S01 25562 MW 10:30-11:50 (T. Kitagawa)

ECON 2030. Introduction to Econometrics I.
The probabilistic and statistical basis of inference in econometrics.
Fall ECON2030 S01 17257 TTh 9:00-10:20(05) (S. Schennach)

ECON 2040. Econometric Methods.
Applications of mathematical statistics in economics. The nature of economic observations, cross-section and time series analysis, the analysis of variance and regression analysis, problems of estimation.
Spr ECON2040 S01 25563 MW 1:30-2:50 (T. Kitagawa)

ECON 2050. Microeconomics I.
Decision theory: consumer's and producer's theory; general competitive equilibrium and welfare economics: the Arrow-Debreu-McKenzie model; social choice and implementation.
Fall ECON2050 S01 17258 MW 2:30-3:50(01) (R. Vohra)

ECON 2060. Microeconomics II.
Economics of imperfect information: expected utility, risk and risk aversion, optimization under uncertainty, moral hazard, and self-selection problems. Economics of imperfect competition: monopoly; price discrimination; monopolistic competition; market structure in single shot, repeated and stage games; and vertical differentiation.
Spr ECON2060 S01 25564 Th 1:30-3:50 (K. Rozen)

ECON 2070. Macroeconomics I.
Consumption and saving, under both certainty and uncertainty; theory of economic growth; real business cycles; investment; and asset pricing.
Fall ECON2070 S01 17259 TTh 10:30-11:50(13) (O. Galor)

ECON 2080. Macroeconomics II.
Money, inflation, economic fluctuations and nominal rigidities, monetary and fiscal policy, investment, unemployment, and search and coordination failure.
Spr ECON2080 S01 25565 TTh 10:30-11:50(09) (F. Duarte)

The purpose of this course is to develop formal tools for building formal, theoretical economic models to support empirical research. This class is aimed at graduate students conducting applied research who have begun conducting independent research. The class will first introduce and review important topics from game theory used in constructing models, but with an applied focus, taking into account common data restrictions and limitations. Emphasis will be placed on tools which can be used to complement existing research goals. Students will be expected to participate in class discussions, weekly assignments, and presentations/reviews of existing papers. Class time will be split between lectures and group discussions/presentations. The main deliverable for the course is to add a formal modeling section to an existing/ongoing independent research project.
Spr ECON2140 S01 25566 W 1:00-3:20 (B. Pakzad-Hurson)

ECON 2150. Market Design.
This is a theoretical course in market design, specifically studying the theory and applications of matching. It is designed for students interested in market and mechanism design, and may also be of interest to students interested in utilizing applied theory in their research. The course will begin with an overview of matching markets, but will quickly move to recent advances and open research topics.
Spr ECON2150 S01 25907 W 9:30-11:50 (B. Pakzad-Hurson)

ECON 2180. Game Theory.
Fall ECON2180 S01 17281 TTh 2:30-3:50(12) (J. Fanning)

ECON 2310. Labor Economics.
This course teaches core topics in labor economics including labor supply, labor demand, simple search models, and a series of additional selected topics. The primary focus will be on linking theoretical models to tests in the empirical literature. We will typically cover papers and topics in detail, rather than survey the literature. When required, we also cover tools in applied econometrics.
Fall ECON2310 S01 18396 MW 9:00-10:20(09) (L. Lagos)

ECON 2390. Applied Econometrics I.
The main focus of this course is on econometrics methods for causal inference, program evaluations, and evidence-based policy design, which has become essential tools for empirical work in economics. This course covers a variety of empirical study designs, and for each design, introduces suitable econometric methods. They include randomized control trials, observational studies with unconfoundedness, instrumental variable methods, regression discontinuity designs, panel data designs and difference-in-differences, empirical welfare maximization methods, etc. The course assumes knowledge of statistics and econometrics at the level of first-year Ph.D econometrics courses such as ECON 2030 and ECON 2040.
Fall ECON2390 S01 17262 TTh 9:00-10:20(05) (T. Kitagawa)

ECON 2410. Urbanization.
The first part of the course covers social interactions, productivity spillovers, systems of cities models, urban growth, and rural-urban migration. The second part of the course covers topics such as durable housing, land market regulation and exclusion, and local political economy. Besides covering basic theoretical models, emphasis is placed on working through recent empirical papers on both the USA and developing countries. Prerequisites: ECON 2050 and 2060.
Spr ECON2410 S01 26422 TTh 9:00-10:20(05) (M. Turner)

ECON 2450. Exchange Scholar Program.
Fall ECON2450 S01 16102 Arranged 'To Be Arranged'
Fall ECON2450 S02 16103 Arranged 'To Be Arranged'
Spr ECON2450 S01 24855 Arranged 'To Be Arranged'

ECON 2510. Economic Development I.
This course covers issues related to labor, land, and natural resource markets in developing countries, in partial and general equilibrium settings. Topics covered include: The agricultural household model, under complete and incomplete market assumptions; household and individual labor supply, migration, self-employment, and the informal sector; rental market frictions and sharecropping arrangements; and environmental externalities (e.g., pollution, water usage, etc.), and sustainable development. The two development courses (2510 and 2520) may be taken in any order. Students doing development as a major field are expected to complete both.
Fall ECON2510 S01 17634 MW 1:00-2:20(08) (E. Macchi)

ECON 2520. Economic Development II.
This course explores questions around history, learning, industry, infrastructure, credit, savings, and behavioral economics in developing societies. It also considers how large, new datasets ('big data') can be used to understand and improve the lives of the poor. The two development courses (2510 and 2520) may be taken in any order. Students doing development as a major field are expected to complete both.
Spr ECON2520 S01 25991 TTh 2:30-3:50(11) (B. Steinberg)

ECON 2660. Bayesian and Structural Econometrics.
This course will cover a number of topics in Bayesian econometrics and estimation of structural dynamic discrete choice models. The Bayesian econometrics part of the course will start with introductory textbook material (Geweke, 2005, Contemporary Bayesian Econometrics and Statistics, denoted by G). A list of 11 topics with corresponding readings is given below. Topics 1-5 will be covered. If time permits, a subset of topics 6-11 determined by interests of the course participants will be covered as well. Readings marked with asterisk * are not required.
Fall ECON2660 S01 17265 TTh 1:00-2:20(06) (A. Norets)

ECON 2630. Econometric Theory.
Standard and generalized linear models, simultaneous equations, maximum likelihood, Bayesian inference, panel data, nonlinear models, asymptotic theory, discrete choice, and limited dependent variable models.
Spr ECON2630 S01 25572 T 9:00-11:20 (S. Schennach)
ECON 2830. Economic Growth and Comparative Development.
This course explores the origins of wealth and inequality across the globe. It examines: (i) the determinants of the growth process since the emergence of Homo sapiens, (ii) the roots of the dramatic transformation in living standards in the past two centuries, and (iii) the role of deeply rooted geographical, institutional, and cultural characteristics as well as human diversity in the uneven development across the countries and regions. The analysis proposes a resolution for some of the most fundamental mysteries of the journey of humanity: What trapped humankind in poverty for most of human existence? What sparked the massive metamorphosis in living standards over the past two centuries? And what led to the emergence of immense inequality across nations?

Fall ECON2830 S01 26506 F 9:30-11:50 (O. Galor)

ECON 2840. Empirical Analysis of Economic Growth.
Examines economic growth, focusing on the effects of technological change, fertility, income inequality, and government policy.

Spr ECON2840 S01 25574 MW 9:00-10:20 (D. Well)

ECON 2860. Comparative Development.
Weighing the shadow of history on contemporary economic performance occupies an increasing part of the agenda among growth and development economists. This course will focus on recent contributions in the literature of the historical determinants of comparative development paying particular attention on how to integrate the use of Geographic Information Systems (GIS) in the research inquiry. The goal is to get you thinking about the big historical processes that have shaped the modern world. We will go over background concepts, critically review recent works and talk about new research designs, like that of spatial regression discontinuity.

Fall ECON2860 S01 17268 T 4:30-6:50(04) (S. Michalopoulos)

ECON 2890C. Topics in Macroe and Monetary Economics.
This is a graduate class that covers selected topics at the intersection of macroeconomics and monetary economics, for students in the second year of the PhD and above. The leading theme of the class is the current economic crisis and how it can be modeled. The syllabus is evolving.

Spr ECON2890C S01 25575 M 1:00-3:20 (G. Eggertsson)

ECON 2930. Workshop in Applied Economics.
No description available.

Fall ECON2930 S01 17269 Th 4:00-5:30(04) "To Be Arranged"
Spr ECON2930 S01 25578 Th 4:00-5:30 "To Be Arranged"

ECON 2950. Workshop in Econometrics.
No description available.

Fall ECON2950 S01 17270 T 4:00-5:30(07) "To Be Arranged"
Spr ECON2950 S01 25580 T 4:00-5:30 "To Be Arranged"

ECON 2960. Workshop in Macroeconomics and Related Topics.
No description available.

Fall ECON2960 S01 17271 W 4:00-5:30(10) "To Be Arranged"
Spr ECON2960 S01 25581 W 4:00-5:30 "To Be Arranged"

ECON 2970. Workshop in Economic Theory.
No description available.

Fall ECON2970 S01 17272 M 4:00-5:30(03) "To Be Arranged"
Spr ECON2970 S01 25593 M 4:00-5:30 "To Be Arranged"

ECON 2980. Reading and Research.
Individual research projects. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

Fall ECON2980 S01 17273 Arranged "To Be Arranged"

Education
This course examines the purpose, structure, and challenges of the American educational system as well as the experiences of the diverse learners and teachers within the system. It also explores how educational institutions have served to create social mobility and opportunity, but also to perpetuate inequality across race, class, gender, and other axes of difference. The course requires no prior knowledge.

Fall EDUC0300 S01 16995 MWF 11:00-11:50(16) (M. Chaney)

EDUC 0405. New Faces, New Challenges: Immigrant Students in U.S. Schools.
What challenges do immigrant students face in adapting to a new system of education? This course examines the educational experiences of immigrant youth and their families. Readings include key contributions by scholars across disciplines, as well as a selection of memoirs and films about the pathways newcomers take in navigating school and (trans)forming them. Enrollment limited to 19 first year students.

Spr EDUC0405 S01 25443 F 3:00-5:30(15) (A. Flores)

EDUC 0510. Culture Wars in American Schools.
This course will examine the history of “culture wars” in American public schools in the twentieth century, including debates over curriculum and who has the power to make decisions about education. Using primary and secondary sources, we’ll look at debates over American history, school prayer, evolution, sex education, Americanization, and parents’ rights among other topics. We’ll explore how these debates over school curriculum, aims, and control raise important questions about majority and minority rights, the existence and meaning of a common national culture and narrative, and the role of schooling in a democracy. We’ll use this history to think critically and with perspective about some of these debates in our own moment.

Fall EDUC0510 S01 26143 M 3:00-5:30(13) (T. Steffes)

EDUC 0515. Teaching LGBTQIA History.
What could a high school U.S. history class look, sound, and feel like when taught through the experiences of LGBTQIA people and communities? Students will answer this question by engaging with the theories and practices of teaching LGBTQIA history in secondary social studies and humanities classrooms. Students will be trained in curriculum design, culturally relevant pedagogies, and LGBTQIA history. Students will then create their own unit plans on a topic in LGBTQIA history that could be taught to local Providence high school students. Those interested in the humanities, teaching, and American LGBTQIA history should take this class.

Fall EDUC0515 S01 17013 TTh 10:30-11:50(13) (J. Palella)

EDUC 0540. Language and Education Policy in Multilingual Contexts.
Millions of children around the world, especially in low- and middle-income countries, begin school learning in a language to which they have had little exposure. Children who learn and are assessed in a language different from that spoken at home or in their community are more likely to drop out of school and demonstrate lower learning outcomes than their peers, on average. Designing multilingual education systems, however, is not always feasible or desirable and requires a different set of resources than monolingual systems. This course explores how multilingual countries and communities design and implement language policies, and the major factors at play when increasing the number of languages used in a school system.

Spr EDUC0540 S01 25444 W 3:00-5:30(10) (P. De Galbert)

EDUC 0620. Cradle of Inequality: The Role of Families, Schools, and Neighborhoods.
In this Sophomore Seminar, we will examine contours of inequality that begin in early childhood and accumulate over time, with particular focus on issues of race, class, and gender. Moreover, we will examine how these factors matter in early childhood and the role of families, schools, and neighborhoods in shaping, ameliorating, and propagating larger inequalities. Through our reading and active discussion, we will develop answers to questions that motivate much inquiry into inequality: Who gets what, and why?

Spr EDUC0620 S01 25452 W 3:00-5:30(10) (D. Rangel)

EDUC 0760. Evidence and Method in Education Research.
Understanding evidence is critical to engaging as citizens and leaders the 21st century. This is particularly true in education research, policy, and practice. Recent years have seen an explosion of empirical education research, requirements that policies be evidence-based, and rapid
expansion of the use of evidence in school settings. This course will introduce students to a range of methods used to generate evidence in education. It is a required course in the Education concentration.

Spr EDU0750 S01 25405 TTh 9:00-10:20(05) (E. Qazilbash)

**EDUC 0800. Introduction to Human Development and Education.**
Introduces students to the study of human development and education from infancy through young adulthood. This course provides a broad overview of scientific and theoretical understanding of how children develop and how research is generated in the field. Major topics include biological foundations, cognition, language, emotion, social skills, and moral understanding based on developmental theories and empirical research. We will attend to variations in cultural, ethnic, gender, socioeconomic, and other forms of human diversity in social contexts (e.g., family and schools) and how the person-context fit may influence children’s developmental trajectories. The course also covers educational contexts, processes, and outcomes.

Spr EDUC0800 S01 25446 MWF 1:00-1:50(08) (J. Li)

**EDUC 0815. The Craft of Teaching.**
What is the “craft of teaching”? A wide variety of texts are used to investigate the complexity of teaching and learning. Considering current problems as well as historical perspectives, new directions, and innovative teaching in America from the perspectives of history, public policy, critical theory, sociology, and the arts. Weekly journals and reading critiques; group teaching project; final paper.

Fall EDUC0815 S01 17016 TTh 2:30-3:50(12) (I. Gil)

**EDUC 0820. Politics and Public Education.**
Who exercises power in public education? This course examines the key institutions (e.g. school districts, states, Congress, and the courts) and actors (e.g. parents, teachers, interest groups, and the general public) shaping American K-12 education in order to understand recent policy trends and their consequences for students. Major policies discussed include school finance, textbook adoption, school accountability, and school choice. Particular attention is given to the federal No Child Left Behind Act of 2001 and debates over its reauthorization. Previous coursework in American politics or public policy is suggested but not required.

Fall EDUC0820 S01 17023 TTh 1:00-2:20(08) (C. Thomas)

**EDUC 0830. Sociology of Education.**
While the United States educational system is widely considered the main institution through which the nation delivers on its promise of social mobility, sociologists have long recognized that schools exacerbate—or even produce—social inequality. This course provides an introduction to the application of sociology to questions of education, with a focus on the United States education system. We will ask questions such as: What do schools teach besides academics? How do social class, gender, and racial/ethnic relations shape student experiences? How can we address critical social issues through education policy?

Spr EDUC0830 S01 25453 TTh 10:30-11:50(09) (D. Rangel)

**EDUC 0835. Comparative Education.**
This course will explore education across the Global South—from adult literacy NGOs in Brazil to Syrian refugees in Turkey, to post-genocide Rwandan classrooms. While initially the international community was concerned with access to education, the main goal now is quality education, especially beyond the primary school level. Readings range from official documents by international organizations, writings by sociologists, historians, political scientists, and anthropologists.

Fall EDUC0835 S01 17014 MWF 12:00-12:50(15) (P. De Galbert)

**EDUC 0870. Perspectives on Multilingual Learners in US Schools.**
Students in Rhode Island’s public schools report speaking over 100 different languages and, in our urban core public schools, nearly 30% of students are designated as Multilingual Learners (MLLS). How are their languages integrated into school? This course investigates how school programs, pedagogies, and practices can either build upon or limit home languages that are inherently present in the classroom. By focusing on the experiences of MLLs in Rhode Island and the broader US public school system, we will consider these essential questions: Who are MLLs? How do historical milestones, federal laws, state policies, and pedagogical practices affect their experiences in school? What are current promising practices for MLLs? What are perspectives of students, families, educators, and policymakers concerning challenges and opportunities for Multilingual Learners?

Fall EDUC0870 S01 18102 TTh 9:00-10:20(05) (T. Kelly)

**EDUC 1190. Family Engagement in Education.**
How do families from diverse backgrounds support their children’s schooling? What does research tell us about how families influence their children’s development and educational processes? Students in this course will examine theories and research findings related to family engagement in education drawing from various social science studies. The course offers an in-depth look at focal topics across diverse groups, such as parental beliefs and practices, family processes in sociocultural contexts, immigrant families, and elements and programs that promote family-school partnerships. This course involves students’ fieldwork and engagement in the community.

Fall EDUC1190 S01 17017 T 4:00-6:30(07) (Y. Yamamoto)

**EDUC 1195. What's Anti-Blackness Doing in a “Nice Field Like Education”?.**
This course considers the foundational texts that constitute the study of anti-Blackness and explores how these theoretical constructs can be applied to educational contexts, policies, reforms, and practices. We will consider the following questions: How does anti-Blackness build on and depart from other forms of racial analysis such as Critical Race Theory? How have themes of anti-Blackness woven through Black activists’, educators’ and scholars’ critiques of education? Lastly, how might the study of anti-Blackness provide a foundation for imagining more humane educational practices for all students?

Fall EDUC1195 S01 17018 W 3:00-5:30(10) (M. Cheney)

**EDUC 1289. Cross-Cultural Perspectives on Child Development.**
This course will focus on the role of culture in child development from infancy to young adulthood. Contemporary theories and empirical research will be reviewed to examine various topics and domains of development. Major topics include childrearing, parental beliefs and parenting styles, cognition, self, affect, moral development, views of intelligence, knowledge, and learning, and beliefs about school. Prior course work in psychology or human development in education is required, such as EDUC 0300, EDUC 0800, CLPS 0610 or CLPS 0620. Instructor permission required.

Fall EDUC1289 S01 17019 MWF 10:00-12:50(14) (J. Li)

**EDUC 1300. Schools as Sites of Social Welfare: An Exploration of the Role of Social Workers in Schools.**
This course offers an orientation to schools as a nexus for social workers engaging with youth. Students in this course will gain a nuanced perspective and understanding of the needs of marginalized youth and come to understand schools as sites of social welfare. Students will discuss some of the challenges that young people in schools encounter throughout their lived experiences such as educational disabilities and learning challenges, healthcare disparities, and the challenges of living in poverty. Students will evaluate schools as sites of intervention where social workers collaborate with other professionals at the micro and macro level to improve youth conditions related to human development in order to enhance educational achievement and overall well-being.

Spr EDUC1300 S01 25451 TTh 1:00-2:20(08) (C. Thomas)

**EDUC 1320. Turning Hope into Results: The Policy Ecosystem of the Providence Public Schools District.**
The Providence Public School District (PPSD) serves approximately 22,000 students and their families. This course will examine the policy ecosystem around the district, which—as a result of a 2019 review—is currently undergoing transformational change to provide students with the world-class education they deserve. This course will build students’ knowledge of PPSD’s history and organizational context. Students will also learn to analyze the district’s policy environment while considering the voices of relevant community members. In order to do this, students will learn the national context for specific topic areas such as teacher policy, curriculum and instruction, family engagement, and school culture. As a Community-Based Learning and Research course, students will be involved in both community collaborations and course assignments that will encourage reflection on the relationship between their classroom learning and their role and experiences working with a community partner.
EDUC 1615. Introduction to Community-Based Participatory Research in Education.
Using community based participatory research, students in this course will learn a research method that interrogates issues of positionality, power, and equity. Community-based participatory research removes research solely from the realm of academia and engages the community in every part of the research project by centering the voices and perspectives of community members. Central to the course and the method of research are issues of power, trust, reform, ethics, and community partnership. Students in this course will work directly with community organizations to understand the problems of the organization, identify research questions that the organization seeks to understand, and highlight a research plan. Partnership, collaboration, and consultancy are central to every phase of this type of research. Student researchers will conclude by providing recommendations to the community organizations.

EDUC 1620. Urban Schools in Historical Perspective.
Why did urban schools, widely viewed as the best in the nation in the early twentieth century, become a “problem” to be solved by its end? How have urban schools been shaped by social, economic, and political transformations in cities and by other public policies? How have urban schools changed over time? This course will ask these and other questions to explore how historical perspective can help us better understand urban schools today. We will analyze the impact of changes in demographics, urban renewal and suburban development, the political economy of cities, educational expectations, and demands for equity.

EDUC 1655. Human Development and Education in East Asia.
This course examines human development and education in East Asia, mainly China, Japan, and South Korea, using comparative and sociocultural perspectives. Topics include cultural beliefs and practices related to learning; school and students’ educational experiences; academic and socioemotional development; family socialization; globalization and educational systems. Students will also examine diversity, inequality, and marginalization in educational processes across and within these countries. The course draws on a range of contemporary studies from interdisciplinary social science fields, such as psychology, sociology, and anthropology.

EDUC 1660. Social Context of Learning and Development.
This course focuses on the social environment that contributes to the development of children’s minds, language, self, affect, relationships with others, beliefs about learning, experience with/attitudes toward school. The course covers the period from birth through young adulthood. Topics include child development and learning under the influences of family, peers, community, school, and immigration, culture, race/ethnicity, and SES. We will review theoretical frameworks and empirical research and discuss implications for education. Prior coursework in human development, education, and psychology is required, such as EDUC 0300, EDUC 0400, EDUC 0620, EDUC 0800, EDUC 0850, EDUC 1289, CLPS 0610, CLPS 0620, or equivalents. Enrollment is limited to 20 students.

This advanced seminar links curriculum theory with the practical skills of curriculum design. While much curriculum theory focuses around the canonical curriculum, the course will strive to uncover silences to expose the ways that the lived and experiential curriculum, both historically and contemporaneously, has the potential to provide counter narrative and to bring about a dialogue of diverse perspectives. We will analyze ways that curriculum is informed by and dependent upon conceptions of race, ethnicity, language and nation. Students will learn about the Understanding by Design framework and use it for their own curriculum development projects that bring together literary fiction and primary sources. Archival research experiences, both online at the Library of Congress and in person at the John Hay Library at Brown, inform our understanding of the possibilities of uncovering stories that matter.
EDUC 1991. Independent Reading and Research
Supervised reading and/or research for education concentrators who are preparing an honors thesis. Written permission from the honors advisor is required. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

EDUC 2350. Economic Analysis and Urban Education Policy
This course introduces students to the main economic theories and related applied work that inform education policy analysis by combining economic theory, econometric studies, and education and institutional literature in an examination of current issues in U.S. education, particularly those issues that are most relevant to urban education. We begin by examining key concepts and theories from microeconomics, labor economics, and public economics that are most relevant for studying questions in education. After laying this theoretical foundation, we examine how these theories can illuminate and aid policy analysis around key topics in U.S. education. Open to graduate students only.
Spr EDUC2350 S01 25408 M 4:00-6:30 (L. Page)

EDUC 2360. Policy Analysis and Program Evaluation for Education
Informed education policymaking requires reliable information about the causal effects of government programs and other forces shaping educational outcomes. This course offers an overview of education policy analysis with an emphasis on econometric strategies for measuring program impacts. It aims to make students critical consumers of policy evaluations and to equip them with tools to conduct their own research. Topics covered include the political context for policy research, social experiments, alternative strategies for making causal inferences, and cost-benefit analysis. Prerequisites: EDUC 1110, POLS 1600, SOC 1100, or written permission of the instructor.
Fall EDUC2360 S01 16997 Th 4:00-6:30(04) (M. Kraft)

EDUC 2367. Strategic Management of School Organizations.
This course will develop a range of professional, leadership, and management skills, build knowledge and understanding about how organizations work, and offer a place for critical reflection about the internship experience. It will employ case studies of organizations and reforms and draw from the experience of practitioners from the field.
Fall EDUC2367 S01 16998 W 4:00-6:30(10) (E. Qazibash)

EDUC 2380. UEP Internship Seminar.
Students in the Urban Education Policy master's program participate in year-long internships in organizations that focus on urban education policy. Each student works with his or her site supervisor to develop a job description for the internship that allows the student to learn from and contribute to the work of the host organization. This corresponding seminar will explore identity in leadership and study what leadership practices, skills, competencies and dispositions are required to succeed at social change work, both at the internship site and in educational organizations where students may work in after Brown.
Spr EDUC2380 S01 25407 W 4:00-6:30 (E. Qazibash)

EDUC 2385. Education Inequality and Community Assets: Contexts and Change.
Designed for graduate students in the Urban Education Policy A.M. and the Master of Arts in Teaching programs, this course focuses on understanding the dynamic social, cultural, and community conditions shaping America’s diverse classrooms. We do so through reading and engaging anthropological and sociological scholarship on issues like immigrant students, hidden scripts of gender and sexuality in secondary schools, social class and tracking, and ethno-racial discrepancies in discipline. By reading works focused on close observation of students, teachers, and families, students will learn to identify, describe, and evaluate how socio-cultural and socio-economic factors impact learning, student outcomes, and teaching.
Fall EDUC2385 S01 16998 M 4:00-6:30(03) (C. Thomas)

EDUC 2390. Race and Democracy in Urban Education Policy.
This course will provide a broad introduction to contemporary education policy centered on issues of race/ethnicity and ideas of democracy. Students will begin by engaging theories of democracy and theories of race. The course will then transition to analyzing major education policy debates such as: school desegregation, school finance, teacher evaluation, curriculum development standards, accountability, educator policies (collective bargaining, certification), special education, and the current policy landscape. The course will include final group projects where students apply the theoretical concepts to strategies for school reform, with the neighboring school districts as cases.
Spr EDUC2390 S01 25406 Th 4:00-6:30(17) (M. Chaney)

EDUC 2450. Exchange Scholar Program.

EDUC 2515. Learning Theory and Special Populations.
This course will provide MAT students with an understanding of factors and responsibilities as you work collaboratively with students, professionals, and parents to establish appropriate educational supports student success and achievement. We will explore the various categories of human exceptionality and their variations; review the main laws and policies that inform your work with exceptional students; study Individualized Education Programs and 504 plans and their implications for instruction; study the Universal Design for Learning (UDL) framework for differentiation; discuss different models for collaborations with school professionals and parents; and access research and resources that support your work with these students.
Fall EDUC2515 S01 17000 W 3:00-5:30(10) (D. Silva Pimentel)

EDUC 2520A. Educational Theory and Practice in Teaching English II.
This course is designed to accompany MAT students’ one-semester fall practicum teaching placement. This field-based course uses the Rhode Island Professional Teaching Standards and the aligned rubric of Danielson’s Framework for Teaching as a guiding standard as well as a central assessment mechanism. ETP II integrates theory and practice with standards-based instruction for the culturally relevant classroom. Students will bring their experiences and questions about teaching and learning directly from teaching and/or observations at field sites so the class can address those questions using discussion, research and inquiry. Artifacts of instruction, practice, and assessment will be examined and analyzed.
Fall EDUC2520A S01 17001 Th 12:30-2:20(06) (L. Snyder)

EDUC 2520B. Educational Theory and Practice in Teaching Social Studies II.
This course provides opportunities for social studies MAT students to meet the Rhode Island Professional Teacher Standards (RIPTS) and the National Council of the Social Studies Preservice teacher standards. In this particular semester, the objectives are to be able to develop standards-based lesson plans and activities for your students that are culturally responsive in social studies based on your knowledge of students and how they learn; use an evaluation framework to distinguish curriculum quality; and successfully revise curriculum as necessary in order to align with the RI GSEs and meet the needs of your students in a culturally responsive way.
Fall EDUC2520B S01 17003 Th 12:30-2:20(06) (J. Palella)

EDUC 2520C. Educational Theory and Practice for Science II.
This course provides opportunities for science MATs to meet the Rhode Island Professional Teacher Standards (RIPTS) and the National Science Teacher Association Preservice science teacher standards. In this particular semester, the objectives are to be able to develop standards-based lesson plans and activities for your students that are culturally responsive in science based on your knowledge of students and how they learn; use an evaluation framework to distinguish curriculum quality; and successfully revise curriculum as necessary in order to meet the needs of your students in a culturally responsive way.
Fall EDUC2520C S01 17004 Th 12:30-2:20(06) (D. Silva Pimentel)

EDUC 2520D. Educational Theory and Practice in Teaching Mathematics II.
This course is designed to provide a space for math MAT candidates in their fall placement to develop their pedagogical content knowledge of culturally responsive teaching as it pertains specifically to teaching mathematics in middle and high school levels. Continuing from our summer work, this course delves more deeply into thinking about what it means to be culturally responsive in particular aspects of curriculum and instruction: CCSS math standards, how students learn, approaches to student-centered mathematics instruction, and choosing and revising
EDUC 2525. Instructional Design, Planning, and Integrating Technology
In this course, students enrolled in the MAT program will build on the knowledge of instructional design that they developed in the summer. MAT candidates will delve more deeply into the Universal by Design (UbD) design process and consider its relationship to the Sheltered Instruction Observation Protocol (SIOP) Model. Additionally, students will work with the Technology, Pedagogy and Content Knowledge (TPACK) Model, which will support their ability to deliberately integrate developmentally appropriate technology into their plans in order to positively impact student learning.
Fall EDUC2525 S01 17006 T 12:30-2:20(06) (L. Snyder)

EDUC 2530A. Educational Theory and Practice III: English
This course is designed to accompany the English MAT spring semester student teaching placement, with an aim to connect research with an experience, workshop, or record of practice to help students understand, implement, question and revise the practice in their own classrooms. Particular areas of focus include independent teaching in the linguistically and culturally diverse high school English classroom; practices for setting up the heterogeneous high school English classroom; classroom management; diagnostic assessment of student learning; understanding your position as a teacher and the context of your school; creating a professional learning community; and methods of teaching English with technology.
Spr EDUC2530AS01 25435 W 4:30-6:30 (L. Snyder)

EDUC 2530B. Educational Theory and Practice in Teaching Social Studies III
This is a continuation of Educational Theory and Practice 1 and 2, designed to provide a space for social studies MAT candidates in their spring student teaching placement to develop their pedagogical content knowledge of culturally responsive teaching as it pertains specifically to teaching social studies in middle and high school levels. Building on the work we did in the summer and the fall, this course delves more deeply into thinking about what it means to be culturally responsive in particular aspects of curriculum and instruction.
Spr EDUC2530B S01 25436 W 4:30-6:30 (J. Paella)

EDUC 2530C. Educational Theory and Practice in Teaching Science III
This course for science MAT candidates is a continuation of Educational Theory and Practice 1 and 2. It is designed to provide a space for candidates in their spring student teaching placement to develop their pedagogical content knowledge of culturally responsive teaching as it pertains specifically to teaching science in middle and high school levels. Continuing from the work done in the summer and the fall, this course delves more deeply into thinking about what it means to be culturally responsive in developing science assessments and in approaching discourse, modeling and mathematical representations.
Spr EDUC2530CS01 25437 W 4:30-6:30 (D. Silva Pimentel)

EDUC 2530D. Educational Theory and Practice in Teaching Mathematics III
This course is a continuation of Educational Theory and Practice 1 and 2. It is designed to provide a space for math MAT candidates in their spring student teaching placement to develop their pedagogical content knowledge of culturally responsive teaching as it pertains specifically to teaching mathematics in middle and high school levels. Continuing from the work we did in the summer and the fall, this course delves more deeply into thinking about what it means to be culturally responsive in curriculum and instruction, particularly in approaches to discourse, assessment, and interdisciplinary connections.
Spr EDUC2530DS01 25438 W 3:30-4:50 (I. Gil)

EDUC 2535. Teaching Literacy and Language to Emerging Bilinguals Across the Disciplines I
This half of a year-long course prepares preservice teachers in the MAT program to teach emerging bilingual students/English learners through sheltered instruction in the mainstream classroom and meet students’ linguistic, academic, and socio-emotional needs. New teachers must learn how to understand and include the experiences of linguistically diverse and multilingual students in their teaching. Additionally, preservice teachers must learn the nature of language acquisition and how specialized instruction can support this development. Through analysis of case studies, participants will also learn to plan and deliver high quality instruction that is differentiated to meet the needs of English learners.
Fall EDUC2535 S01 17007 W 3:00-5:30(10) (T. Kelly)

EDUC 2545. Teaching Literacy and Language to Emerging Bilinguals Across the Disciplines II
This second half of a year-long course prepares preservice teachers in the MAT program to teach emerging bilingual students/English learners through sheltered instruction in the mainstream classroom and meet students’ linguistic, academic, and socio-emotional needs. New teachers must learn how to understand and include the experiences of linguistically diverse and multilingual students in their teaching. Additionally, preservice teachers must learn the nature of language acquisition and how specialized instruction can support this development. Through analysis of case studies, participants will also learn to plan and deliver high quality instruction that is differentiated to meet the needs of English learners.
Spr EDUC2545 S01 25409 Th 4:00-5:30 (T. Kelly)

EDUC 2555. Assessment and Using Data to Support Student Learning
This course will provide a space for enrolled MAT degree candidates to learn theories related to assessment that are closely tied to their student teaching practical experience and also establish effective ways to measure their impact on student learning. The course will prepare students to explain concepts related to assessment; design formative and summative assessment systems through the UDL Framework; analyze the results of assessment tasks/data and utilize them to inform instructional decisions; and evaluate current and future trends in educational assessment.
Spr EDUC2555 S01 25410 M 4:30-5:50 (I. Gil)

EDUC 2565. Practicum and Seminar I
This clinical experience and seminar, held off-campus at student teaching sites, provides the practical component of the MAT fall semester that will allow MAT students to merge theory and practice. The main goals for this semester are for practicum students to familiarize themselves with their school context, students and community; develop an understanding of how school context and learning about students inform planning curriculum; be aware of the policies and initiatives you are responsible for in the role of a teacher; form professional relationships with your colleagues, students, and families; and begin instructing in a co-teaching model.
Fall EDUC2565 S01 17006 Arranged(16) "To Be Arranged"
Fall EDUC2565 S02 17009 Arranged(18) "To Be Arranged"
Fall EDUC2565 S03 17010 Arranged(18) "To Be Arranged"
Fall EDUC2565 S04 17011 Arranged(18) "To Be Arranged"

EDUC 2575. Student Teaching and Seminar
This off-campus student teaching clinical experience and seminar, held at student teaching sites, provides the practical component of MAT students’ winter and spring semester that will allow students to merge theory and practice and gain proficiency in the domains outlined by the Framework for Teachers. This will be accomplished by taking on the full responsibilities of a teacher for selected secondary classes in your placement school with the guidance of your mentor teacher and your supervisor as well as attending meetings and other programs teachers are required to attend for your placement site.
Spr EDUC2575 S01 25439 Arranged "To Be Arranged"
Spr EDUC2575 S02 25440 Arranged "To Be Arranged"
Spr EDUC2575 S03 25441 Arranged "To Be Arranged"
Spr EDUC2575 S04 25442 Arranged "To Be Arranged"

EDUC 2980. Studies in Education
Independent study; must be arranged in advance. Section numbers vary by instructor. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.
EDUC 2990. Thesis Preparation
For graduate students who have met the residency requirement and are continuing research on a full time basis.
Egytpology and Assyriology
Assyriology

ASYR 0998. Wrong For Good Reasons: An Introduction to the History of Science
Lavoisier! Galileo! Newton! According to widespread narratives: heroes of science and progress. These heroes, we are told, triumphed over the obdurate fools who held back the march of science out of deliberate ignorance. But things are not so simple, for their objectors often had good reasons to be “wrong”. Through the study of landmark examples selected from Antiquity to the Early Modern Era in what we would call today the fields of Chemistry, Cosmology, Astronomy, and Optics, students will reevaluate received narratives of “science” and “progress”. Students will read (in English translation) primary sources ranging from ancient Babylonian astronomical texts to excerpts of Huygens’ treatise on light. There are no prerequisites.

ASYR 1600. Astronomy Before the Telescope.
This course provides an introduction to the history of astronomy from ancient times down to the invention of the telescope, focusing on the development of astronomy in Babylonia, Greece, China, the medieval Islamic world, and Europe. The course will cover topics such as the invention of the zodiac, cosmological models, early astronomical instruments, and the development of astronomical theories. We will also explore the reasons people practiced astronomy in the past. No prior knowledge of astronomy is necessary for this course.

ASYR 2400. Akkadian Literary and Religious Texts.
Readings in Akkadian literary and religious texts in the original language and script. Possible genres include myths, proverbs, and literary miscellanies as well as prayers, hymns, incantations, rituals, prophecies, and divinatory texts. This course is intended primarily for graduate students and may be repeated for credit. A reading knowledge of Akkadian cuneiform is required. A reading knowledge of both German and French is recommended but not required.

ASYR 2890. Reading and Research.
Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

ASYR 2990. Thesis Preparation.
For graduate students who have met the residency requirement and are paying the registration fee to continue active enrollment while preparing for a preliminary examination.

ASYR XLIST. Courses of Interest to Concentrators in Egyptology and Assyriology.

Egyptology

EGYT 1310. Introduction to Classical Hieroglyphic Egyptian Writing and Language (Middle Egyptian I).
Learn how to read ancient Egyptian hieroglyphs! The classical language of ancient Egypt, Middle Egyptian was spoken ca. 2000–1600 BCE and remained an important written language for the rest of ancient Egyptian history. Students will learn the hieroglyphic writing system, vocabulary, and grammar of one of the oldest known languages and read excerpts from stories, royal monuments, tomb inscriptions, and amulets. By the end of this course, students will be able to decipher textual portions of many monuments and objects in museums. This course may also be taken on its own, and it also serves as the first of a two-semester sequence. No prerequisites.

EGYT 1330. Selections from Middle Egyptian Hieroglyphic Texts.
Readings from the various genres of classical Egyptian literature, including stories and other literary texts, historical inscriptions, and religious compositions. Students will be expected to translate and discuss assigned texts. Prerequisite: EGYT 1310, 1320.
ENGN 0061. Undergraduate Teaching Assistant Apprenticeship: Full Credit.
Being an undergraduate TA is a learning and rewarding experience: Students get a deeper understanding of the course material and gain valuable management, mentoring, and social skills that they can take with them well into the future. Students taking this course must first be selected as an Undergraduate TA for an undergraduate Engineering course. Students can expect to work closely with the course instructor(s) on a variety of course-related topics, including preparation of material and development of assignments. A report on course development outcomes is expected as part of the course credit requirements.

Fall ENGN0061 S01 16599 Arranged (G. Palmore)
Spr ENGN0061 S01 25278 Arranged (G. Palmore)

ENGN 0062. Undergraduate Teaching Assistant Apprenticeship: Half Credit.
Being an undergraduate TA is a learning and rewarding experience: Students get a deeper understanding of the course material and gain valuable management, mentoring, and social skills that they can take with them well into the future. Students taking this course must first be selected as an Undergraduate TA for an undergraduate Engineering course. Students can expect to work closely with the course instructor(s) on a variety of course-related topics, including preparation of material and development of assignments. A report on course development outcomes is expected as part of the course credit requirements.

Fall ENGN0062 S01 16600 Arranged (G. Palmore)
Spr ENGN0062 S01 25279 Arranged (G. Palmore)

ENGN 0090. Management of Industrial and Nonprofit Organizations.
Exposes students to the concepts and techniques of management. Topics include marketing, strategy, finance, operations, organizational structure, and human relations. Guest lecturers describe aspects of actual organizations. Lectures and discussions.

Fall ENGN0090 S01 16601 TTh 1:00-2:20(06) (T. Chaltas)
Fall ENGN0090 S02 16602 TTh 2:30-3:50(12) (T. Chaltas)

ENGN 0120B. Crossing the Space Chasm Through Engineering Design.
Five decades of human activity in space have provided the world with instant global communications and positioning, human and robotic exploration of the moon, planets and sun, and a perspective of earth which informs and influences our relationship with our environment. Unlike other technical revolutions space has not transitioned to a commercial, consumer market commodity. Rather its users and applications remain primarily large and institutional. To experience the challenges of engineering design for adoption of innovation, we will work in groups to identify uses of space, and a plan for their implementations, that could help space become “every day”. Through the process of design, we will confront the technical, economic, societal and political barriers to acceptance of innovation and to making new technologies beneficial to a wider range of users. Enrollment limited to 18 first year students.

Spr ENGN0120B S01 25838 MWTh 7:30-8:50PM (R. Fleeter)

ENGN 0150. Principles of Chemical and Atomic Engineering.
This course introduces students to core concepts of chemical and molecular engineering. Students will learn to formulate, derive, and solve material and energy balances for chemical systems. Examples will be drawn from diverse application areas that are relevant to chemical engineering in the twenty-first century. These examples will emphasize how to break down complex problems into simpler components, how to derive the governing equations from first principles, and how to obtain the solution using numerical methods. Students will learn fundamentals of molecular modeling methods, and how atomistic techniques can be applied to engineering problems. The course is appropriate for students concentrating in any field of engineering, or related fields such as chemistry, physics, or biology.

Spr ENGN0150 S01 25374 MWF 12:00-12:50(01) (A. Peterson)

ENGN 0260. Mechanical Technology.
A basic machine shop course that, with the help of an instructor, teaches students how to fabricate a few simple objects using hand tools and some basic machines. This course is designed to introduce the student to the machining process and environment. Audit only.

Fall ENGN0260 S01 16603 T 10:30-11:50(18) (D. Paine)
Fall ENGN0260 S02 16604 T 1:00-2:20(18) (D. Paine)
Fall ENGN0260 S03 16605 Th 10:30-11:50(18) (D. Paine)
Fall ENGN0260 S04 16606 Th 1:00-2:20(18) (D. Paine)
Spr ENGN0260 S01 25500 T 10:30-11:50 (D. Paine)
Spr ENGN0260 S02 25501 T 1:00-2:20 (D. Paine)
Spr ENGN0260 S03 25502 Th 10:30-11:50 (D. Paine)
Spr ENGN0260 S04 25503 Th 1:00-2:20 (D. Paine)

Mechanical behavior of materials and analysis of stress and deformation in engineering structures and continuous media. Topics include concepts of stress and strain; the elastic, plastic, and time-dependent response of materials; principles of structural analysis and application to simple bar structures, beam theory, instability and buckling, torsion of shafts; general three-dimensional states of stress; Mohr's circle, stress concentrations. Lectures, recitations, and laboratory. Prerequisite: ENGN 0030 or ENGN 0031 or ENGN 0032.

Fall ENGN0310 S01 16486 MWF 9:00-9:50(09) (P. Guduru)

ENGN 0410. Materials Science.
Relationship between the structure of matter and its engineering properties. Topics: primary and secondary bonding; crystal structure; atomic transport in solids; defects in crystals; mechanical behavior of materials; phase diagrams and their utilization; heat treatment of metals and alloys; electrical and optical properties of materials; strengthening mechanisms in solids and relationships between microstructure and properties. Lectures, recitations, laboratory.

Fall ENGN0410 S01 16489 TTh 2:30-3:50(12) (D. Paine)

This course presents a broad introduction to environmental engineering, and will help students to explore environmental engineering as an academic major and as a career option. The course covers topics in environmental engineering: chemistry fundamentals, mass balance, air pollution, water pollution, sustainable solid waste management and global atmospheric change. The course is essential for the environmental engineering students who are planning to take more advanced courses in environmental engineering. This course is also for the students in other engineering disciplines and sciences, who are interested in environmental constraints on technology development and practice, which have become increasingly important in many fields.

Fall ENGN0490 S01 16607 TTh 1:00-2:20(06) (I. Kulaots)

ENGN 0510. Electricity and Magnetism.
Fundamental laws of electricity and magnetism and their role in engineering applications. Concepts of charge, current, potential, electric field, magnetic field, Resistance, capacitance, and inductance. Electric and magnetic properties of materials. Electromagnetic wave propagation. Lectures, recitation, and laboratory. Prerequisites: ENGN 0030, 0031, 0032 or PHYS 0070; ENGN 0040 or PHYS 0160 (previously 0080); MATH 0180 or 0200; and APMA 0330 or 0350 (may be taken concurrently).

Fall ENGN0510 S01 16492 MWF 10:00-10:50(14) (A. Zaslavsky)

ENGN 0520. Electrical Circuits and Signals.
An introduction to electrical circuits and signals. Emphasizes the analysis and design of systems described by ordinary linear differential equations. The frequency domain is introduced early and stressed throughout. Other topics include circuit theorems, power transfer, transient analysis, Fourier series, Laplace transform, a brief intro to diodes and transistors, and a little control theory. There is a lecture on engineering ethics. Laboratories apply concepts to real problems in audio and controls. Lectures, recitation, and laboratory. Prerequisite: MATH 0180 or MATH 0200, courses may be taken concurrent to ENGN 0520.

Spr ENGN0520 S01 25211 MWF 10:00-10:50(03) (L. Larson)


For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
normal shocks. Lectures, laboratory. Prerequisites: MATH 0180 or 0200, ENGN 0040 or PHYS 0050 or PHYS 0070, APMA 0330 or APMA 0350 (can be concurrent).

Fall ENGN0810 S01 16496 MWF 1:00-1:50(08) (D. Harris)

ENGN 0900. Managerial Decision Making.
Ways of making effective decisions in managerial situations, especially situations with a significant technological component; decision analysis; time value of money; competitive situations; forecasting; planning and scheduling; manufacturing strategy; corporate culture. Lectures and discussions. Prerequisite: ENGN 0090 or MATH 0100.

Spr ENGN0900 S01 25375 TTh 1:00-2:00(08) (T. Chaltas)

ENGN 0930A. Appropriate Technology.
Our goal for this course is that you leave it with the ability to think and act rationally and concretely on issues of technology and the human condition. We will provide background on useful technologies (e.g. wind, solar, hydro), techniques to fabricate them, and an opportunity to explore the obstacles to their implementation.

Spr ENGN0930/S01 26489 MWF 1:00-1:50(06) 'To Be Arranged'

ENGN 0930C. DesignStudio.
DESIGNSTUDIO is a course open to students interested in learning through making. Working in a studio environment, we will iteratively design, build, and test projects, as we imaginatively frame design problems, and develop novel strategies for addressing those problems. We will explore design thinking, creative collaboration, exploratory play, ideation, iteration, woodworking, prototyping, CNC milling and laser cutting – in addition to other strategies that enhance our creative processes - as we establish a technical and conceptual foundation for the design and fabrication of objects and experiences. Enrollment limited to 16. Instructor permission required.

Spr ENGN0930C S01 25499 MW 11:00-1:50 (I. Gonsher)

ENGN 0930L. Biomedical Engineering Design and Innovation.
This course is an incubator for innovative ideas in biomedical design. Students across all disciplines are invited to collaborate with biomedical engineers to enhance the development of design solutions that address clinical and public health concerns. Students will form teams with their peers and a clinical advisor, identify and define a design project to meet a clinical need, and engage in the design process throughout the semester. Engineering concentrators should register for ENGN1930L.

Fall ENGN0930L S01 16608 MW 8:30-9:50(09) (A. Tripathi)

ENGN 0931L. Biomedical Engineering Design and Innovation II.
This course is an incubator for innovative ideas in biomedical design. Students across all disciplines are invited to collaborate with biomedical engineers to enhance the development of design solutions that address clinical and public health concerns. Student teams formed in the previous semester will continue develop a design project based on an unmet clinical need with a clinical advisor, gaining hands-on process experience and generating innovative solutions. Engineering concentrators should register for ENGN1931L.

Spr ENGN0931L S01 25694 MWF 11:00-11:50(04) (C. Kofron)

ENGN 1000. Projects in Engineering Design I.
Fall semester projects in design for concentrators in electrical, materials, and mechanical engineering. Students work in teams on projects that are defined through discussions with the instructor. An assembled product or detailed design description is the goal of the semester's effort. Students may elect to combine ENGN 1000 with ENGN 1001 to work on a year-long project with permission of the instructor. Students electing to pursue this option must take ENGN 1000 and ENGN 1001 in the same academic year and must have submitted a project proposal by October 1 of the previous Fall semester. Instructor permission required.

Fall ENGN1000 S01 16610 M 3:00-5:30(03) (I. Gonsher)

ENGN 1001. Projects in Engineering Design II.
Spring semester projects in design for concentrators in electrical, materials, and mechanical engineering. Students work in teams on projects defined through discussions with instructor. An assembled product or detailed design description is the goal of semester's effort. Students may elect to combine ENGN 1000 with ENGN 1001 to work on a year-long project with permission of the instructor. Students electing to pursue this option must take ENGN 1000 and ENGN 1001 in the same academic year and must have submitted a project proposal by October 1 of the previous Fall semester. Instructor permission required.

Spr ENGN1001 S01 25498 M 3:00-5:30(13) (I. Gonsher)

ENGN 1010. The Entrepreneurial Process.
Entrepreneurship is innovation in practice: transforming ideas into opportunities, and, through a deliberate process, opportunities into commercial realities. These entrepreneurial activities can take place in two contexts: the creation of new organizations; and within existing organizations. This course will present an entrepreneurial framework for these entrepreneurial processes, supported by case studies that illustrate essential elements. Successful entrepreneurs and expert practitioners will be introduced who will highlight practical approaches to entrepreneurial success. Enrollment limited to 35.

Fall ENGN1010 S01 16611 TTh 10:30-11:50(03) (D. Warshay)
Fall ENGN1010 S02 16612 W 3:00-5:30(03) (F. Slutsky)
Fall ENGN1010 S03 16613 M 6:00-8:30PM(03) (J. Cohen)
Spr ENGN1010 S01 25376 TTh 10:30-11:50(09) (D. Warshay)
Spr ENGN1010 S02 25377 TTh 9:00-10:20(05) (H. Ansari)

ENGN 1110. Transport and Biotransport Processes.
Aim: To develop a fundamental understanding of mass transport in chemical and biological systems. The course includes: mechanism of transport, biochemical interactions and separations; mass transport in reacting systems; abiotic and biotic membrane transport, entrapped transports; osmotic pressure; electrophoretic separations; pharmacokinetics and drug transport; equilibrium stage processes; distillation and extraction. Other features: design concepts; modern experimental and computing techniques; laboratory exercises. Prerequisites: Junior level or higher standing; APMA 0330 or 0350.

Spr ENGN1110 S01 26197 TTh 1:00-2:20(08) (A. Shukla)

ENGN 1130. Chemical Engineering Thermodynamics.
Application of the first and second laws of thermodynamics and conservation of mass to the analysis of chemical and environmental processes, phase and chemical equilibria and partitioning of species in multiphase, nonreactive and reactive systems. Thermodynamic properties of fluid mixtures-correlation and estimation. Applications and examples drawn from chemical processing and environmental problems. Prerequisite: ENGN 0720 or equivalent. Offered in alternate years.

Fall ENGN1130 S01 16790 MWF 11:00-11:50(16) (A. Peterson)

ENGN 1140. Chemical Process Design.
Chemical process synthesis, flow charting, and evaluation of design alternatives. Process equipment sizing as determined by rate phenomena, economics, and thermodynamic limitations. Introduction to optimization theory. Applications of these principles to case studies. Prerequisites or Corequisites: ENGN 1110, 1120, 1130.

Spr ENGN1140 S01 25378 TTh 6:40-8:00PM(18) (M. Wojwicz)

ENGN 1150. Environmental Engineering Design.
Capstone engineering design course for Environmental Engineering. The course will involve introducing students to environmental contamination scenarios, developing responses to that scenario; e.g. Developing methods to assess the extent of the problem, to designing actual remediation, or mitigation strategies to address the problem. Coursework relies on laboratory measurements, computer modeling or both. Emphasis on conducting realistic assessments of the threat to human and ecological receptors (including learning about any relevant regulations), an evaluation of strategies to minimize negative impacts and consideration of both the costs and timescales needed for implementing alternatives. Prerequisites: ENGN 0490, ENGN 0720, ENGN 0810.

Spr ENGN1150 S01 25379 TTh 9:00-10:20(02) (K. Pennell)

ENGN 1210. Biomechanics.
Important foundations of continuum biomechanics, properties of biomaterials, three-dimensional concepts of strains and stress, linear isotropic elasticity, anisotropic response, yield, fracture, fatigue, nonlinear elastic and viscoelastic response of biological materials/structures and biomedical implants/devices will be taught. Students will learn physical basis, theory and applications of each of these topics for biomedical engineering applications. Muscle biomechanics, biomechanics of walking and running, and response of soft tissue and bone will be discussed.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Course Descriptions

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Instructor</th>
<th>Credits</th>
<th>Time</th>
<th>Location</th>
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<tbody>
<tr>
<td>ENGN 1220</td>
<td>Neuroengineering.</td>
<td>(V. Srivastava)</td>
<td>3</td>
<td>2:30-3:50(11)</td>
<td>(V. Srivastava)</td>
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**ENGN 1220. Neuroengineering.**
Course Goals: To develop an advanced understanding of how signals are generated and propagated in neurons and neuronal circuits, and how this knowledge can be harnessed to design devices to assist people with neurologic disease or injury. Fundamental topics in neuronal and neural signal generation, recording methods, and stimulation methods. Clinical/Translational topics include multiple clinically available and emerging neurotechnologies. Prerequisites: NEUR 0010 and ENGN 0510; or instructor permission, which may be provided after discussion with course faculty.

**ENGN 1230. Instrumentation Design.**

**ENGN 1300. Structural Analysis.**
Classical and modern methods of analysis for statically indeterminate structures. Development of computer programs for the analysis of civil, architectural, and aerospace structures from the matrix formulation of the classical structural theory, through the direct stiffness formulation, to production-type structural analysis programs. Introduction to Finite Element Methods (FEM) and Isogeometric Analysis (IGA). Prerequisite: ENGN 0310.

**ENGN 1340. Water Supply and Treatment Systems - Technology and Sustainability.**
This course provides a comprehensive overview of engineering approaches how to protect water quality. Class begins with brief introduction to hydrological cycle. More in detail groundwater flows (Darcy eq.-n) and flows into wells are examined. Principles of hydraulics are presented. Open channel and river flows, flood routing and preventing are presented. Freshwater and wastewater treatment technologies, together with advanced water treatment processes evaluated. Course ends with a visit to a local wastewater treatment plant. Prerequisites: CHEM 0330 and ENGN 0040. Recommended ENGN 0810.

**ENGN 1342. Groundwater Flow and Transport.**
Students in this course will develop a fundamental understanding of groundwater flow and transport processes. They will derive and apply mathematical models used in aquifer evaluation, aquifer testing, regional flow assessment, and solute transport predictions. Students will be introduced to state-of-the-art groundwater flow and transport simulators. A major portion of the course will be devoted to a team project in which students will use available geologic, hydrologic, and geochemical data from a selected site to develop, implement, and apply an aquifer model to address a real-world subsurface contamination problem.

**ENGN 1350. Art Fluids Engineering.**
This course aims to use fluid flows to create art. During a series of lectures, students will participate in discussions in which a 'fluid' idea will be presented. A contrasting scientific/engineering and artistic analysis will be conducted in each of these lectures. The students will then identify a flow problem to create a piece of art: dynamic sculptures, paintings, videos or installations. The art pieces will be presented at the end of the semester and exhibited publicly.

**ENGN 1370. Advanced Engineering Mechanics.**
A unified study of the dynamics of particles, rigid bodies, and deformable continua. Generalized coordinates and Lagrange's equations; variational principles; stability of equilibrium; vibrations of discrete systems and of elastic continua, and wave propagation. Prerequisites: ENGN 0040, APMA 0340, or equivalent.

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<tr>
<td>ENGN 1410</td>
<td>Physical Chemistry of Solids.</td>
<td>(V. Srivastava)</td>
<td>3</td>
<td>2:30-3:50(11)</td>
<td>(V. Srivastava)</td>
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**ENGN 1410. Physical Chemistry of Solids.**
Application of physical chemistry and solid state chemistry to the structure and properties of engineering solids as used in solid state devices, ceramics, and metallurgy. Equilibrium and free energy of heterogeneous systems, thermodynamics of solutions, chemical kinetics, diffusion, catalysis and corrosion, solid state transformations. Case studies taken from industrial practice. Prerequisites: ENGN 0410, 0720.

**ENGN 1440. Mechanical Properties of Materials.**
Begins with basic concepts of mechanical properties common to all materials, with some emphasis on dislocation theory. Particular attention is given to the relationship between mechanical properties and microstructures. The different types of mechanical tests that are used in each of these fields are analyzed. Lectures plus laboratories. Prerequisite: ENGN 0410.

**ENGN 1480. Metallic Materials.**
The central theme is to familiarize students with typical microstructures in metals and alloys, their origin, and factors that control stability. The role of processing (primary and secondary) in influencing microstructures will be demonstrated. The ability to change microstructure through composition and processing to obtain a "desired" microstructure that provides specific properties will be highlighted with examples in different alloy systems including Al, steels, and Ni-based. Factors that control stability and shape of second phase particles will be discussed for L/S and S/S processing. The consequences of microstructural changes on physical and mechanical properties will be illustrated. Prerequisite: ENGN 0410. Recommended: ENGN 1410.

**ENGN 1490. Biomaterials.**
Biomaterials science, the study of the application of materials to problems in biology and medicine, is characterized by medical needs, basic research, and advanced technological development. Topics covered in this course include materials used in bone and joint replacement, the cardiovascular system, artificial organs, skin and nerve regeneration, implantable electrodes and electronic devices, drug delivery, and ophthalmology.

**ENGN 1510. Nanoengineering and Nanomedicine.**
Students in this course will develop a fundamental understanding of nanoengineering and its applications in medicine. We will discuss nanomaterials synthesis, fabrication, and characterization. Medical applications of these materials will include drug delivery, imaging and diagnostics, and tissue engineering approaches. Nanotoxicology will also be discussed. Research methods in nanoengineering and nanomedicine will be emphasized (i.e., critical analysis of scientific literature, effective oral and written communication). Students will also have the opportunity to gain an introduction to several nanoengineering research tools available on campus. This course is for engineering and science graduate students and advanced upper-level engineering undergraduates.

**ENGN 1520. Cardiovascular Engineering.**
In this course, students will learn quantitative physiological function of the heart and vascular system, including cardiac biomechanics and vascular flow dynamics, through lectures and discussion of current scientific literature. A systems approach will integrate molecular biophysics, cell biology, tissue architecture, and organ-level function into a quantitative understanding of health and disease. Discussion topics will include cardiovascular devices, pre-clinical regenerative therapies, stem cell ethics, and clinical trials.

**ENGN 1560. Introduction to Applied Electromagnetics.**
A first course on electromagnetic waves and photonics. Topics to be covered include basic wave phenomena with an emphasis on geometric optics, the interaction of light with matter, scattering, and interference and diffraction effects. Also covered will be a selected number of more advanced topics including laser physics, nonlinear optics, transmission lines, and antennas.
ENGN 1560. Embedded Microprocessor Design. This is a combined lecture and design project course offering experience in the open-ended design of an electronic product or system employing an embedded microprocessor by small-group design teams. Activity includes product specification, circuit design, programming, printed circuit layout, construction, packaging, and economic assessment. Teams are expected to produce functional products. Lecture topics will be adjusted to reflect the chosen design problems. Emphasis is placed on the criteria for choosing processors and on the interfaces and programming requirements of the system. Primarily for senior concentrators. Experience with C programming is helpful but not required. Prerequisite ENGN 1630 or permission of the instructor.

ENGN 1570. Linear System Analysis. Analysis of discrete and continuous electrical signals and systems in both time and frequency domains. Modulation, sampling, spectral analysis, analog and digital filtering. Fourier, Laplace and z-transforms, the state-space approach, stability of linear systems. Prerequisite: ENGN 0520. Fall ENGN1570 S01 16624 MWF 1:00-1:50(08) (P. Felzenszwalb)

ENGN 1580. Communication Systems. We will learn basic communication and information theory, but with examples drawn from a variety of areas not normally considered communication. Basic knowledge of Laplace/Fourier transforms and frequency domain is essential (ENGN 0520 or equivalent required). Linear Systems (ENGN 1570), Probability (APMA 1650 or MATH 1610), Linear Algebra (MATH 0520 or 0540) and E&M (ENGN 0510) are helpful but not required. Analog modulation, digitization, signal space, digital modulation and noise, information theory, selected topics in modern communication/ information network theory and applications to biology and physics as time and interest permit. Depending on preparation, we may also pursue final projects.

ENGN 1590. Semiconductor Devices. An introduction to semiconductor device physics and basic electronic properties of semiconductors, including junctions, heterojunctions and fundamental device building blocks. Current and proposed semiconductor devices: field effect transistors, bipolar transistors, quantum-effect devices, and optoelectronic devices. A brief fabrication lab will introduce junction fabrication in the cleanroom. Advanced topics, such as heterojunction bipolar transistors and silicon-on-insulator FETs, included in the graduate version.

ENGN 1610. Image Understanding. Image processing is a technology experiencing explosive growth; it is central to medical image analysis and transmission, industrial inspection, image enhancement, indexing into pictorial and video databases, e.g., WWW, and to robotic vision, face recognition, and image compression. This senior-level undergraduate course covers theoretical underpinnings of this field and includes a series of practical MATLAB image processing projects. ENGN 1570 is recommended but not required.

ENGN 1620. Analysis and Design of Electronic Circuits. Elementary device physics and circuit characteristics of semiconductor diodes, bipolar junction transistors (BJTs), and field effect transistors (FETs). Analysis and design of practical circuits using discrete semiconductor devices. Constraint on and techniques for linear integrated circuit (IC) design and the use of linear ICs as circuit building blocks. Laboratory. Prerequisites: ENGN 0510, 0520 or equivalent.

ENGN 1630. Digital Electronics Systems Design. Fundamentals of digital logic design including: Boolean algebra, gates, truth tables, logic families, flip-flops, finite state machines, memory, and timing. More advanced topics include A-D conversion, binary arithmetic, CPU organization, programmable logic (CLPDs and FPGAs), and VHDL. Extensive laboratory requirement. Not open to first year students; permission required for sophomores.

ENGN 1640. Design of Computing Systems. This course introduces the main concepts and techniques for designing computing systems. Topics covered include assembly language, instruction set design, pipelining, superscalar and VLIW processor design, memory subsystem design, and I/O interfacing. Laboratory topics include programmable logic devices, hardware definition languages, and implementation of a bootable version of the pipelined MIPS processor. Laboratory emphasizes design optimizations with respect to speed and design area. Prerequisite: ENGN 1630 or passing of a quiz on basic digital logic concepts, or instructor permission.

ENGN 1650. Embedded Microprocessor Design. This is a combined lecture and design project course offering experience in the open-ended design of an electronic product or system employing an embedded microprocessor by small-group design teams. Activity includes product specification, circuit design, programming, printed circuit layout, construction, packaging, and economic assessment. Teams are expected to produce functional products. Lecture topics will be adjusted to reflect the chosen design problems. Emphasis is placed on the criteria for choosing processors and on the interfaces and programming requirements of the system. Primarily for senior concentrators. Experience with C programming is helpful but not required. Prerequisite ENGN 1630 or permission of the instructor.

ENGN 1690. Photronics Devices and Sensors. Science and engineering principles of photonics and optoelectronic devices that provide foundation to a broad range of technologies from lasers to detectors, from cameras to computer displays, from solar cells to molecular sensing, from internet to quantum cryptography, and to new lighting sources for illuminations in the city and in biomedical treatments. Topical content: Light as waves in media, on surfaces, and through micro and nanostructures; interference and waveguiding; light generation by spontaneous emission, stimulated emissions, photodetection, infrared and night visions, LED, lasers, optical amplifiers and modulators, etc. Prerequisite: ENGN 0510 or equivalent.

ENGN 1700. Fluid Mechanics of Aerospace and Energy Systems. Advanced fluid mechanics focusing on the physics, concepts, theories, and models of aerodynamics, renewable energy, turbomachinery, and space propulsion. Topics will focus on airfoil and wing theory, wind and water turbines; laminar and turbulent boundary layers; sub- and supersonic aerodynamics. A brief introduction to rocket propulsion and advanced space propulsion. Lectures, labs, computation and design projects. Prerequisites: ENGN 0720 and ENGN 0810. Fall ENGN1700 S01 16791 MWF 11:00-11:50(16) (M. Rodriguez)

ENGN 1730. Lasers and Nonlinear Optics. This is a second course on optics and photonics and is intended for juniors interested in more advanced topics in modern optics who have already completed ENGN1690. Topics to be covered include the fundamentals of laser operation, gain and gain saturation, resonators, single-mode and multi-mode lasers, and a selection of important laser examples. We will then discuss light-matter interactions in the nonlinear regime, relying on a classical or semi-classical treatment. Topics will include frequency conversion via mixing or parametric processes, and degenerate third-order self-induced effects. Time permitting, we will discuss some of the most recent breakthroughs in optically-driven nonlinear processes such as laser-induced fusion as well as the planned exascale laser systems currently under development.

ENGN 1735. Vibration of Mechanical Systems. This course will focus on the vibration characteristics of mechanical systems. Topics will include: analysis of free and forced single degree-of-freedom linear oscillators, vibration control and isolation, multiple degree-of-freedom and continuous systems, and introduction to nonlinear oscillations. Relevant analytical and numerical methods useful for modeling and analysis of vibrating systems will be discussed throughout. Students will be expected to do some numerical calculations on a computer.

ENGN 1740. Computer Aided Visualization and Design. Provides instruction in the application of computers to the design methods in engineering. Hands-on experience in use of CAD/CAE software packages for geometric modeling, visualization, and drafting. Emphasis on applications to solids and structural problems. Independent design projects are carried out. Course counts as an ABET upper-level design course for mechanical and civil engineering concentrators. Prerequisite: ENGN 0310. Spr ENGN1740 S01 25836 T 7:00-9:30PM (D. Bamford)

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Continuum mechanics of solids and its application to the mechanical response of machine and structural elements. Tensor descriptions of deformation and internal forces in solids; field equations. Elastic and plastic material models; failure criteria. Analytical techniques and energy methods for elastic solids; implementing the finite element method for elastic solids. Beam and plate theory. Stress waves and vibrations in solids. Use of commercial finite element software. Prerequisite: ENGN 0310. APMA 0330 or 0350.
Fall ENGN1750 S01 16631 TTh 10:30-11:50(13) (K. Kim)

ENGN 1760. Design of Space Systems.
Working in design groups, students conceive a space mission and design all of the elements necessary for its execution including launch and orbit / trajectory, space and ground systems, including analysis of structure, thermal, radio link, power and mass budgets, attitude control and dynamics. Each group builds a hardware project to demonstrate a core element of their mission design. Prerequisites: Engineering core curriculum or equivalent.
Fall ENGN1760 S01 25837 MWTh 6:00-7:20 (R. Fleeter)

ENGN 1800. Social Impact of Emerging Technologies: The Role of Scientists and Engineers.
The role of engineering sciences in an ever-changing technology-driven world. Students will develop basic working knowledge of selected contemporary technologies that help identify and forecast future prospects while discerning future disruptions. Emphasis on the importance of ethical and social responsibilities that technologists must shoulder in answering societal challenges and contributing to policy making and corporate leadership. How do we create beneficial technologies yet anticipate their potential social costs, such as workforce automation or overdependence on the internet? Will we give up brains as our last private space? Who will control the data / technology ecosystem that influences our decisions?
Fall ENGN1800 S01 17962 Th 4:00-6:30(04) (A. Nummikko)

Aims to give students a deeper and more thorough grounding in principles and applications of fluid mechanics. Topics include review of dimensional analysis and conservation principles; viscous flows with application to microfluidics; lubrication analysis for bearing design; laminar boundary layers; wave motion; and interfacial phenomena (e.g., drops and bubbles). Lectures, assignments, computational projects, and laboratory. Prerequisites: ENGN 0810.
Spr ENGN1860 S01 25281 MWF 11:00-11:50(04) (J. Ault)

ENGN 1930B. Biomedical Optics.
Biomedical optics is a rapidly growing field with applications in medicine, biology, and neuroscience. The course covers principles and applications of wave mechanics for biological tissues. The principles include refraction, reflection, scattering, diffraction and interference. The applications include Michelson interferometry and optical coherence tomography (OCT). OCT is the emerging technology for 3D imaging, considered by the American Institute for Medical and Biological Engineering (AIMBE) as the latest innovation milestone in the history of biomedical engineering. Throughout the course, we will also learn various numerical analysis techniques with working examples in MATLAB. Prerequisites: Undergraduate level ENGN 0510 Minimum Grade of S
Fall ENGN1930BES01 18232 MWF 12:00-12:50(15) (J. Lee)

ENGN 1930L. Biomedical Engineering Design and Innovation.
This course is the culmination "capstone" of the biomedical engineering educational experience. The primary objective of this course is to recall and enhance design principles introduced through the engineering core curriculum and to apply this systematic set of engineering design skills to biomedical engineering projects. Students will form teams with their peers and a clinical advisor, identify and define a design project to meet a clinical need, and engage in the design process through the course of the semester. For seniors only. Non-engineering concentrators should register for ENGN 0930L.
Fall ENGN1930LS01 16609 MW 8:30-9:50(09) (A. Tripathi)

ENGN 1931D. Design of Mechanical Assemblies.
An introduction to the design and development of mechanical assemblies suitable for production over a range of volumes, from prototypes to high volume manufacture. The course is intended to present an overview of basic machine components and manufacturing processes from the perspective of a design engineer in a contemporary industrial setting. The objective of which being to provide students the background necessary to create mechanical assemblies from blank-page concepts through to production ready designs. Coursework will include both theoretical and experimental exercises as well as two group projects working on a mechanical assembly produced via high volume manufacture. Prerequisite: ENGN 0310, 1740. Enrollment limited to 20.
Fall ENGN1931DS01 16634 M 7:00-9:40PM(17) (D. Bamford)

ENGN 1931L. Biomedical Engineering Design and Innovation II.
This course is part two of the culmination “Capstone” of the biomedical engineering educational experience. The primary objective of this course is to recall and enhance design principles introduced through the engineering core curriculum and to apply this systematic set of engineering design skills to biomedical engineering projects. Student teams formed in the previous semester will continue develop a design project based on an unmet clinical need with a clinical advisor, gaining hands-on process experience and generating innovative solutions. For seniors only. Non-engineering concentrators should register for ENGN 0931L.
Spr ENGN1931LS01 25895 MWF 11:00-11:50(04) (C. Kofron)

This course explores all the energy forms, but will focus on energy sources from which the majority of "useful" energy originates at the present time. Basic heat transfer problems related to energy efficiency are presented. Rankine and Brayton power cycles are introduced. Cycle modifications supporting energy efficiency are explored. Carbon footprint calculations are illustrated. Traditional and cutting-edge technologies for carbon capture and storage presented. Emissions such as SOx, NOx, and PM and their capture technologies investigated. The Earth climate model examined. The course features three 1-page long scientific summary writings and the tour to the Manchester Street Power Station.
Fall ENGN1931PS01 16639 TTh 10:30-11:50(13) (E. Kulaots)

ENGN 1931Q. Entrepreneurial Management in Adversity.
Companies get into trouble all the time — making wrong products for the market, failing to meet sales quotas. This course examines actions a company must take in adverse conditions. There is never enough time to hire consultants, do research, hire new employees. Top Management must make decisions, often with insufficient data and alternative 'sub-optimal' options. Primary objectives are to understand analysis and rapid action when faced with adversity; identify the cause of adversity, building a plan and making the necessary decisions. How do we create beneficial technologies yet anticipate their potential social costs, such as workforce automation or overdependence on the internet? Will we give up brains as our last private space? Who will control the data / technology ecosystem that influences our decisions?
Fall ENGN1931QS01 16796 TTh 9:00-10:20(05) (H. Anderson)

ENGN 1931S. Medical Physics.
Medical Physics is an applied branch of physics concerned with the application of concepts and methods to the diagnosis and treatment of human disease. It allies with medical electronics, bioengineering, and health physics. Students will become familiar with major texts and literature of medical physics and be exposed to imaging and treatment techniques and quality control procedures. Students will acquire physical and scientific background to pose questions and solve medical physics problems. Topics include: Imaging, imaging metrics, ionizing radiation, radiation safety, radioactivity, computed tomography, nuclear medicine, ultrasound, magnetic resonance imaging, and Radiation Therapy (delivery systems, treatment planning, brachytherapy, image guidance).
Fall ENGN1931SES01 16786 W 3:00-5:30(10) (E. Klein)

ENGN 1931T. Entrepreneurship Practicum: Starting, Running, and Scaling Ventures.
Starting and running a venture is one of the most rewarding and frustrating endeavors a manager faces. While good ideas abound, the hallmark of the entrepreneur is the ability to translate ideas into action. This course is experiential, project-based, and designed to help entrepreneurs turn ideas into real ventures. Students should have already identified a problem whose solution may serve as the basis for a venture. Some may have embarked upon venture-building already. This course will help them work...
in a structured way, with supportive mentorship and content, to make significant progress on the venture and increase chances for success.
Fall ENGN1931TS01 16663 TTh 1:00-2:20(06) (J. Clark)
Spr ENGN1931TS01 25383 TTh 1:00-2:20(08) (J. Clark)  

**ENGN 1931W. Selling & Sales Leadership in the Entrepreneurial Environment.**
Is there any skill more important to entrepreneurs than sales? Startups only have two problems: sales and all else. The entrepreneur starts with a product or service and must convince an embryonic team to join a firm before there is a product, financing or customers; and convince investors the idea is sound, doable, and profitable, and convince customers to rely on a company with no track record. Sales skills are essential. Entrepreneurs sell an intangible and must make it feel immensely tangible. Until company/product become tangible, sales responsibility never stops. Entrepreneurs are key sales figures and face of the company.
Fall ENGN1931VS01 16797 TTh 10:30-11:50(13) (H. Anderson)

**ENGN 1932D. Qualitative Market Research for Entrepreneurs & Business Innovators.**
A critical element of entrepreneurship, and indeed all new business development, is to be able to undertake insightful market research, including developing the “understanding” of the customers of potential new products and services. This requires qualitative research methods, and in this course participants learn to utilize the most recent and effective methods. A feature of the course is that the curriculum also explores the academic origins of the methods, developed from the fields of sociology, anthropology, management, and industrial design. Participants undertake a meaningful market research project in teams or as individuals.
Spr ENGN1932DS01 25497 W 3:00-5:30(10) (A. Kingon)

**ENGN 1932M. Foundations of Internet Communication Systems.**
This course focuses on the foundational technologies that are the cornerstones of the modern Internet. We start with basic concepts in the field of Communications: analog vs. digital, digital sampling, SNR and detection in transmission of information. We then discuss voice/video/data media, packetized media, point-to-point, multicast and broadcast networks, radio, digital telephony, streaming media, wireless networking, satellite communications and the ever-evolving configuration of the Internet. We look at core enabling technologies (e.g., fiber optics), the development of key SW constructs used in the Internet and the popular “SaaS” model that enables most of commerce and collaboration across today’s Internet. The course includes presentations by industry experts and field trips to technology leading companies.
Fall ENGN1932MS01 18475 M 3:00-5:30(03) “To Be Arranged”

**ENGN 1970. Independent Studies in Engineering.**
Independent Study in Engineering. Instructor permission required after submitting online proposal (https://docs.google.com/a/brown.edu/forms/d/1FAIpQLSekX19keKq7x7rl3c5a5r24Md_NqFyE70hrnSI8aYyo77MhgA/viewform). Section numbers vary depending on concentration. Please check Banner for the correct section number and CRN to use when registering for this course.

**ENGN 1971. Independent Study in Engineering.**
Independent Study in Engineering. Instructor permission required after submitting online proposal (https://docs.google.com/a/brown.edu/forms/d/1FAIpQLSekX19keKq7x7rl3c5a5r24Md_NqFyE70hrnSI8aYyo77MhgA/viewform). Section numbers vary depending on concentration. Please check Banner for the correct section number and CRN to use when registering for this course.

**ENGN 1972. Independent Study in Engineering Design.**
Independent Study in Engineering, with approved design content. Instructor and concentration advisor approval is required after submitting online proposal (https://docs.google.com/a/brown.edu/forms/d/1FAIpQLSekX19keKq7x7rl3c5a5r24Md_NqFyE70hrnSI8aYyo77MhgA/viewform). Section numbers vary depending on concentration. Please check Banner for the correct section number and CRN to use when registering for this course.

**ENGN 1973. Independent Study in Engineering Design.**
Independent Study in Engineering, with approved design content. Instructor and concentration advisor approval is required after submitting online proposal (https://docs.google.com/a/brown.edu/forms/d/1FAIpQLSekX19keKq7x7rl3c5a5r24Md_NqFyE70hrnSI8aYyo77MhgA/viewform). Section numbers vary depending on concentration. Please check Banner for the correct section number and CRN to use when registering for this course.

An introduction to methods of mathematical analysis in physical science and engineering. This course focuses on analytical techniques in mathematics. It includes series solution for differential equations, Fourier series and Fourier transform for solving partial differential equations, analytical maximum and minimum problems, calculus of variations and complex functions, and complex calculus. Fall ENGN2010 S01 16499 MTh 7:10-8:30PM(02) (A. Zaki)

**ENGN 2020. Mathematical Methods in Engineering and Physics II.**
This course focuses on numerical solutions of common problems encountered in engineering and physical sciences, and provides both theoretical underpinnings and practical use of such methods, relying on physical problems from engineering and physical sciences wherever possible. This course covers: 1) Matrix operations, including linear algebra, eigenvalue problems, vector calculus, etc. 2) Solving physical end problems numerically: computing physical quantities and the solution of numerically solvable problems to user-defined accuracy, focusing primarily on numerical integration methodologies. 3) Advanced numerical methods: introductions to Bayesian statistics (via Markov chain / Monte Carlo), machine learning (simple regression / classification algorithms), principle component analysis, and design of experiments.
Spr ENGN2020 S01 25219 MTh 5:40-7:00(06) (A. Zaki)

**ENGN 2160. Technology Entrepreneurship and Commercialization II.**
ENGN 2160 develops the knowledge of, and embeds the skills for, technology-based entrepreneurship. While ENGN 2150 has helped you to examine science and technology sources, and create a portfolio of opportunities from these, this course continues by developing selected opportunities into a compelling business case for the creation of a high growth potential new venture. Once again, learning is by a combination of lectures and "experiential learning", with work undertaken as a guided two-semester project. Enrollment limited to 30 graduate students in the ScM PRIME program.
Fall ENGN2160 S01 16669 W 3:00-6:00(04) (H. Ansari)
Fall ENGN2160 S03 16671 Arranged(04) (M. Grandinetti)
Fall ENGN2160 S04 16672 T 6:00-9:00PM(02) (M. Grandinetti)

**ENGN 2171. Iterating with Intention.**
The studio experience forms the core of MADE. It gives students the opportunity to practice deliberate design engineering with guidance, mentoring, and critique from experienced academics and practitioners. Three short fall projects are arranged so that, as students progress, the responsibility for content, organization, and outcomes shifts from the faculty to participants.
Fall ENGN2171 S01 16673 TTh 12:00-4:30(06) (A. Law)

**ENGN 2173. Design Engineering Communication.**
Communication is a vital component of effective collaboration. In this 4-week course, students learn how the extended human-centered design process can apply and be implemented by graphical and language-based communication for different audiences. Beginning with exercises framing the challenge of identifying and engaging different audiences, students will consider the broad variety of design engineering audiences and their information needs. Students will collaborate with information design experts, to identify, adapt and create appropriate communication strategies for a variety of objectives and contexts, such as individual inquiry, eliciting feedback or engaging support. Students teach each other, bringing tools and approaches from their disciplinary homes to this shared endeavor. This studio transitions discussions of effective communication to drafting the Capstone Studio proposal. Initial drafts are used as the basis for learning; they are developed and transformed from detailed statements of interest to a group proposal for all participants.
Spr ENGN2173 S01 25284 Arranged (B. Altringer)

**ENGN 2210. Continuum Mechanics.**

Fall ENGN2210 S01 16674 MWF 10:00-10:50(14) (H. Kesari)


Spr ENGN2290 S01 25368 MWF 10:00-10:50(03) (P. Guduru)


Fall ENGN2340 S01 16675 MWF 4:30-5:50(03) (V. Bazilevs)

ENGN 2342. Groundwater Flow and Transport. Students in this course will develop a fundamental understanding of groundwater flow and transport processes. They will derive and apply mathematical models used in aquifer evaluation, aquifer testing, regional flow assessment, and solute transport predictions. Students will be introduced to state-of-the-art groundwater flow and transport simulators. A major portion of the course will be devoted to a team project in which students will use available geologic, hydrologic, and geochemical data from a selected site to develop, implement, and apply an aquifer model to address a real-world subsurface contamination problem.

Fall ENGN2342 S01 17208 TTh 9:00-10:20(05) (L. Abriola)

ENGN 2350. Data-Driven Design and Analysis of Structures and Materials. This course provides introductory knowledge on data-driven design and analysis of structures and materials. This course will try to balance theory and practice, such that the students become capable of understanding and using the methods in new scenarios. The first half of the course focuses on introducing machine learning from a probabilistic perspective, providing the foundations to understand current machine learning methods. The second part of the course focuses on applying machine learning to different engineering problems in solid mechanics.

Fall ENGN2350 S01 18097 MWF 1:00-1:50(08) (M. Bessa)


Spr ENGN2380 S01 25371 TTh 2:30-3:50(11) (K. Kim)


Spring ENGN2400 S01 25372 MWF 10:00-10:50(03) (D. Paine)


Fall ENGN2410 S01 16676 TTh 10:30-11:50(13) (B. Sheldon)

ENGN 2440. Strength of Solids. Mechanical behavior of solids as interpreted through atomistic mechanisms. Theory and characteristics of dislocations in continuous and crystalline media. Intrinsic and extrinsic stacking faults, extended dislocations, point defects, nodes and networks, disclinations, crystal boundaries. Applications of dislocation theory to single and polycrystal plasticity, work-hardening, stress-corrosion, creep, fatigue, hardening mechanisms, etc.

Fall ENGN2440 S01 16933 MWF 10:00-10:50(14) (W. Curtin)


ENGN 2490A. Crystal Structures and Crystallography. The study and experimental analysis of solid structures from crystallography and crystal chemistry viewpoints. Electronic structure of the atom as related to core level chemical analysis techniques in material science, atomic arrangements in solids, form crystallography, crystal symmetry and symmetry of finite objects, and experimental techniques in x-ray diffraction.

Fall ENGN2490A S01 18379 TTh 9:00-10:20(05) (E. Chason)

ENGN 2590. Semiconductor Devices. An introduction to semiconductor device physics and basic electronic properties of semiconductors, including junctions, heterojunctions and fundamental device building blocks. Current and proposed semiconductor devices: field effect transistors, bipolar transistors, quantum-effect devices, and optoelectronic devices. A brief fabrication lab will introduce junction fabrication in the cleanroom. Advanced topics, such as heterojunction bipolar transistors and silicon-on-insulator FETs, included in the graduate version.

Spr ENGN2590 S01 25619 MWF 2:00-2:50(07) (A. Zaslavsky)

ENGN 2605. Image Understanding. Image Understanding is an Artificial Intelligence core technology that is experiencing explosive growth; it is central to medical image analysis, industrial inspection, image enhancement, indexing into pictorial and video databases, robotic vision, drone navigation and mapping, face recognition, image compression, etc. This graduate-level course covers theoretical underpinnings of this field and includes a series of practical MATLAB image processing projects. Knowledge of Fourier Transform is required; ENGN 1570 is recommended.

Fall ENGN2605 S01 18357 TTh 3:00-5:30(10) (B. Kimia)

ENGN 2625. Optical Microscopy: Fundamentals and Applications. This course is intended to provide an introduction to optical microscopy for engineering and science students. Topics ranging from basic brightfield and fluorescence microscopy to Nobel-prize winning advanced optical microscopy methods will be discussed. The course will also provide students with the opportunity to acquire hands-on training on various microscopy platforms including the confocal laser scanning microscope and the multiphoton microscope, as well as basic sample preparation.

Spr ENGN2625 S01 25485 MWF 10:00-11:20 (K. Toussaint)

ENGN 2735. Vibration of Mechanical Systems. This course will focus on the vibration characteristics of mechanical systems. Topics will include: analysis of free and forced single degree-of-freedom linear oscillators, vibration control and isolation, multiple degree-of-freedom and continuous systems, and introduction to nonlinear oscillations. Relevant analytical and numerical methods useful for modeling and analysis of vibrating systems will be discussed throughout. Students will be expected to do some numerical calculations on a computer.

Fall ENGN2735 S01 16630 TTh 9:00-10:20(05) (K. Breuer)
ENGN 2750. Chemical Kinetics and Reactor Engineering
This course focuses on the fundamentals of chemical kinetics with engineering applications. Topics include: quantum chemistry, statistical thermodynamics, and transition state theory; tight versus loose transition states; the kinetics of gases, liquids, and surfaces; adsorption, desorption, surface diffusion; enzyme kinetics and biological processes; formation, solution, and interpretation of elementary mechanisms; global versus local sensitivity analysis; uncertainty quantification; and the coupling between fluid dynamics and chemical reactions.
Fall ENGN2750 S01 16793 MWF 2:00-2:50(01) (F. Goldsmith)

ENGN 2810. Fluid Mechanics I
Formulation of the basic conservation laws for a viscous, heat conducting, compressible fluid. Molecular basis for thermodynamic and transport properties. Kinematics of vorticity and its transport and diffusion. Introduction to potential flow theory. Viscous flow theory; the application of dimensional analysis and scaling to obtain low and high Reynolds number limits.
Fall ENGN2810 S01 16679 MWF 2:00-2:50(01) (J. Ault)

ENGN 2820. Fluid Mechanics II
Introduction to concepts basic to current fluid mechanics research: hydrodynamic stability, the concept of average fluid mechanics; introduction to turbulence and to multiphase flow, wave motion, and topics in inviscid and compressible flow.
Spr ENGN2820 S01 25286 MW 11:00-11:50(04) (M. Martinez Wilhelms)

ENGN 2910G. Topics in Translational Research and Technologies.
To improve human health, engineering and scientific discoveries must be explored in the context of application and translated into human/societal value. Translational research is creating a fundamental change in the way basic science and engineering research has operated for decades, breaking down the literal and figurative walls that separate basic scientists/ engineers and clinical researchers. Such discoveries typically begin at "the bench" with basic research—and in the case of medicine—then progress to the clinical level, or the patient's "bedside." This seminar course will utilize case studies to demonstrate to students how the translational research unfolds. Lectures will be delivered by clinicians, medical researchers, engineers, and entrepreneurs, with case studies focused on topics ranging from value creation, IRB, HIPAA, FDA approval, etc.
Spr ENGN2910G S01 25892 F 3:00-5:30(15) (A. Tripathi)

ENGN 2911P. Fate and Transport of Environmental Contaminants.
Physical, chemical and biological processes governing the fate and transport of contaminants in the environment. Topics to be covered include solute transport, sorption processes, mass transfer, non-aqueous phase liquid (NAPL) entrainment and dissolution, abiotic and biotic transformations. A portion of the course will involve the use of analytical and numerical models to assess the impact of coupled processes on contaminant fate and transport.
Spr ENGN2911P S01 25384 TTh 9:00-10:20(05) (L. Abriola)

ENGN 2911T. Ultrafast Optical Phenomena.
This course covers the generation, propagation, and measurement of short laser pulses, of duration less than one picosecond. Concepts include mode locking, the effects of dispersion, optical pulse amplification, and time-domain non-linear optical phenomena. Intended as an introduction to ultrafast phenomena for graduate students or advanced undergraduates; a basic understanding of electromagnetic waves and of quantum mechanics is assumed.
Fall ENGN2911T S01 17120 MWF 9:00-9:50(09) (D. Mittelman)

ENGN 2912B. Scientific Programming in C++
Introduction to the C++ language with examples from topics in numerical analysis, differential equations and finite elements. As a prerequisite, some programming knowledge, e.g., MATLAB projects. The course will cover the main C++ elements: data types; pointers; references; conditional expressions; streams; templates; Standard Template Library(STL); design and debugging techniques.
Fall ENGN2912B S01 16682 MW 5:30-6:50(10) (D. Moreno)

ENGN 2912J. Asymptotic and Perturbation Methods.
In this introductory course to perturbation methods, topics covered are inspired by problems in solid mechanics (e.g. ridges and kinks in thin plates), fluid mechanics (e.g. viscous boundary layers), electrical circuits (van der Pol oscillator), and include regular and singular perturbations, methods of strained coordinates, multiple scales, averaging, WKB, Laplace's method and the method of steepest descent for approximating integrals, and solutions of partial differential equations. Prerequisite: ENGN 2010 and 2020.
Fall ENGN2912J S01 16794 MWF 12:00-12:50(15) (T. Powers)

ENGN 2912T. Experimental Fluid Mechanics.
Spr ENGN2912T S01 25287 MWF 10:00-10:50(03) (K. Breuer)

ENGN 2912U. Coordinated Mobile Robotics.
Mobile robotics has made a large impact in our lives, from how we satisfy our consumerism to how we fight wars. Thousands of warehouse robots autonomously zip around each other in a highly structured and specialized environment that makes coordination look easy, while military robots are required to be operated by more than one person, making coordination difficult. Moving beyond highly controlled scenarios presents many challenges. Most importantly, mobile robots will interact in complex environments with other robots and people. How can we ensure robots safely do what we want them to do? What are the ethical ramifications of multirobot systems?
In this course, we study the past, present, and future of coordinated mobile robotics, including a discussion of ethics. The majority of this course is a seminar-style survey of issues and approaches for control and coordination in multi-robot systems.
Fall ENGN2912U S01 17274 MWF 8:30-9:50(09) (N. Ayanian)

ENGN 2912V. Deep Learning for Scientists and Engineers.
This course introduces concepts and implementation of deep learning techniques for computational science and engineering problems to first or second year graduate students. This course entails various methods, including theory and implementation of deep learning techniques to solve a broad range of problems using scientific machine learning. Lectures and tutorials on Python, Tensorflow and PyTorch are also included. Students will understand the underlying theory and mathematics of deep learning; analyze and synthesize data in order to model physical, chemical, biological, and engineering systems; and apply physics-informed neural networks and neural operators to model and simulate multiphysics systems. Undergraduate students who want to enroll in this course should request an override through Courses@Brown.
Spr ENGN2912V S01 25288 W 3:00-5:30(10) (G. Kamiakadis)

ENGN 2920G. Creating Economic and Social Value from Your Science or Engineering Research.
As a graduate student or undergraduate researcher, the primary output of your research is new knowledge and research publications. But is there a more direct way of creating value, through licensing and commercialization to a company, through creating products or services, or through the creation of a new venture? How can we assess the potential social impact? We will together examine some currently emerging evidence to establish the methods. Thereafter you will examine the science and technology within your own research group in order to discover value, value that you may possibly be able to exploit. Students must be actively participating in research. Undergraduate students must also be undertaking research (instructor permission is required). Graduate students are requested to contact the instructor when registering.
Fall ENGN2920G S01 16684 Th 4:00-5:30(04) (A. Kikon)

ENGN 2920H. Materials and Interfaces for Energy Storage Devices.
This is an introductory course that combines materials science and electrochemistry, emphasizing thermodynamics, charge transfer kinetics, interface structures, and ionic mass transport mechanisms in both liquid and solid materials. This course integrates the atomistic point of view with the macroscopic concepts in electrochemistry and energy storage devices. Examples of various battery and fuel cell technologies will be presented. An emphasis is placed on mechanistic understanding, quantitative analysis, and mathematical models of electrochemical systems. The
course is intended to support graduate students conducting research involving electrochemical technologies.

**ENGN 2930. Atomistic Modeling of Materials.**
This class describes the fundamentals of statistical mechanics with a focus on both traditional analytic methods and modern atomistic simulations methods. The class is divided in two parts. (i) Techniques used to calculate interactions at the atomic level are first covered, from simple interatomic potentials to quantum mechanical first-principles methods. (ii) Simulations techniques to sample atomic degrees of freedom for obtaining macroscopic quantities are then discussed, such as Monte Carlo and Molecular Dynamics. The tools presented in class are illustrated with ongoing examples that illustrate how these methods work in concert. Enrollment limited to 40 graduate students.

Spr ENGN2930 S01 25385 M 3:00-5:30(13) (A. Van De Walle)

**ENGL 2970. Preliminary Examination Preparation.**
For graduate students who have met the tuition requirement and are paying the registration fee to continue active enrollment while preparing for a preliminary examination.

Fall ENGL2970 S01 16113 Arranged 'To Be Arranged'
Spr ENGL2970 S01 24865 Arranged 'To Be Arranged'

**ENGL 2980. Special Projects, Reading, Research and Design.**
Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

**ENGL 2990. Thesis Preparation.**
For graduate students who have met the residency requirement and are continuing research on a full time basis.

Fall ENGL2990 S01 16114 Arranged 'To Be Arranged'
Spr ENGL2990 S01 24866 Arranged 'To Be Arranged'

**English**

**ENGL 0100N. City Novels.**
This course examines 20th and 21st century novels to consider how these narratives envision the city, its possibilities and limits. How does the city shape how we think, wander, grow up, see and know each other? How does the city divide people? How does the novel imagine ways to bridge those divisions? Readings by Woolf, Chandler, Wright, Cisneros, Smith, Calvino, Adiga, Whitehead.

Spr ENGL0100N/S01 25095 MWF 1:00-1:50(08) (T. Katz)

**ENGL 0100P. Love Stories.**
What do we talk about when we talk about love? We will see how writers have addressed this question from Shakespeare’s day to the present. Writers may include Shakespeare, Austen, Eliot, Flaubert, Graham Greene, Marilynn Robinson, and/or others. Students should register for ENGL 0100P S01 and may be assigned to conference sections by the instructor during the first week of class.

Fall ENGL0100P/S01 16342 MWF 10:00-10:50(14) (J. Kuzner)

**ENGL 0100T. The Simple Art of Murder.**
A survey of the history of criminal enterprise in American literature. Authors to be considered include Poe, Melville, Hawthorne, Twain, Chandler, Wright, Petry, Highsmith, Millar, Harris, and Mosley.

Spr ENGL0100T/S01 25266 MWF 2:00-2:50(07) (D. Nabers)

**ENGL 0101C. America Dreaming.**
What ever happened to the American Dream? How is American literature a series of dreaming--fantasy, utopia, dystopia, anti-salviation, reform, the West, and escape. Fiction, film, the essay, the nonfiction novel. What makes for an “American” myth? How is it exported to the world?

Fall ENGL0101C S01 18095 MWF 1:00-1:50(08) (P. Gould)

**ENGL 0101D. Modern Poetry.**
The early twentieth century was an extraordinary time for poetry; the lyricism of W. B. Yeats and Paul Laurence Dunbar, the experimentation of T. S. Eliot and Gertrude Stein, the myths of H. D. and Ezra Pound, the naturalism of Robert Frost and Marianne Moore, the imaginations of Wallace Stevens and William Carlos Williams, the music of Langston Hughes and ee cummings. the feminism of Virginia St. Vincent Millay and Edith Sitwell.

This course will read these works against the background of the modernist revolution in the arts, the horrors of the First World War, and the enormous changes wrought by the emergence of the mass media.

Spr ENGL0101D S01 25372 TTh 2:30-3:50(11) (T. Bewes)

**ENGL 0150U. The Terrible Century.**
Although the term "terrorism" was coined in the 18th century, and although its contemporary resonance has reached an unprecedented pitch, the truly terrible century was arguably the 20th. This course introduces 20th century literature in English through a historical and philosophical examination of terror and terrorism. We will focus on several historical contexts, including: British colonialism in Ireland and Africa, South African apartheid, and the post 9/11 world. Readings include Conrad, Bowen, Gordimer, Coetzee, Foulds, Walters, Hamid. Enrollment limited to 19 first-year students.

Spr ENGL0150U S01 25042 TTh 2:30-3:50(11) (T. Bewes)

**ENGL 0150X. The Claims of Fiction.**
This course explores the interplay of tropes of strangeness, contamination, and crisis in a range of novels and shorter fiction, in English or in translation. We will ask why social misfits and outsiders somehow become such fascinating figures in fictional narratives. How do these fictions entice and equip readers to reflect on collective assumptions, values, and practices? Writers will include Baldwin, Bronê, Coetzee, Conrad, Faulkner, Ishiguro, Morrison, Naipaul, Rushdie, Said, Shelley. Limited to 19 first-year students.

Spr ENGL0150X S01 25131 MWF 9:00-9:50(02) (O. George)

**ENGL 0151C. Midsummers.**
A traditional occasion for festivity and misrule, midsummer has been important to writers since medieval times. Spanning Shakespeare to Auster, Midsummer to Midsommar, the course includes Ovid’s Metamorphoses and Korine’s Spring Breakers. How are midsummers represented? What’s the difference between country and city, nighttime and daytime? Do things ever go back to normal, or can a party last forever? Enrollment limited to 19 first-year students.

Spr ENGL0151C S01 25103 MWF 10:00-10:50(03) (C. Scozzaro)

**ENGL 0310A. Shakespeare.**
We will read a representative selection of Shakespeare’s comedies, tragedies, histories, and romances, considering their historical contexts and their cultural afterlife in terms of belief, doubt, language, feeling, politics, and form. Students should register for ENGL 0310A S01 and may be assigned to conference sections by the instructor during the first week of class.

Fall ENGL0310A S01 16358 MWF 2:00-2:50(01) (C. Scozzaro)
Spr ENGL0310A S01 25047 MWF 9:00-9:50(02) (S. Foley)

**ENGL 0511R. Disgruntled and Indignant: Satire.**
Sarcastic writing finds inspiration in the failures of a culture to live up to its own ideals. Other kinds of writing may glory in nature, in love, in religion, or in other uplifting topics. Satire, in contrast, whether hilariously funny or deeply disturbing, is the means of attacking what is wrong with the world. Long before The Onion, the Daily Show, or SNL, writers like Jonathan Swift, Alexander Pope, and Laurence Sterne explored the possibilities of the ironic imagination.

Spr ENGL0511R S01 25327 TTh 10:30-11:50(09) (M. Rabb)

**ENGL 0700U. Modernism and Race.**
An exploration of the ways in which assumptions about racial difference are perpetuated or challenged by modernist experiments in form. Readings include W. E. B. DuBois, Joseph Conrad, Langston Hughes, Gertrude Stein, Nella Larsen, William Faulkner, and Richard Wright.

Spr ENGL0700U S01 25039 MWF 10:00-10:50(03) (P. Armstrong)

**ENGL 0710N. Fitzgerald, Hemingway, and the Lost Generation.**
An introduction to two of the most popular and influential American novelists of the twentieth century, Scott Fitzgerald and Ernest Hemingway. We will read many of their most important novels and stories, including The Great Gatsby, Tender is the Night, In Our Time, The Sun Also Rises, and A Farewell to Arms. In addition we will examine the work of the contemporary American writers who most influenced them: Gertrude Stein, Willa Cather, Sherwood Anderson, and T. S. Eliot.

Fall ENGL0710N/S01 16327 MWF 11:00-11:50(01) (S. Burrows)
ENGL 0710V. Death and Dying in Black Literature.
How is death represented in black literature as a topic and as a figure of genre? Which theoretical ideas help us think about the intertwining of blackness and death? How do notions of gender and sexuality inform this thinking? This course will explore works from the twentieth and twenty-first centuries to consider the scope of black literary imaginings of death. Spr ENGL0710V S01 25028 MWF 10:00-10:50(03) (K. Quasheie)

ENGL 0710X. Black Poetics.
This course is interested in poetic thinking: how a poem inclines toward a certain kind of knowing; how a poem’s imagining invites philosophical considerations (as in, what is being, and how to be); how a poem’s language and its formal qualities sustain such thinking. We are interested, also, in how poetic thinking reckons (with) blackness. Fall ENGL0710X S01 16317 TTh 2:30-3:50(12) (K. Quasheie)

ENGL 0800R. Reading Practices: An Introduction to Literary Theory.
What is it to read? This course is an introduction to theories of reading that have shaped literary interpretation and definitions of literature from the early twentieth century to the present, with particular attention to the relation between “literary theory” as a discipline and the broader reading practices it engenders and from which it emerges. We will read the New Criticism, structuralism, post-structuralism, and new historicism, critical race theory and feminist critiques, and recent work in aesthetics. Topics include literariness and textuality, the reader and subjectivity, narrative, rhetoric, and the problem of representation, and “new formalism.” Enrollment limited to thirty. Spr ENGL0800R S01 25129 TTh 10:30-11:50(09) (E. Rooney)

ENGL 0800S. Blackness in Critical Thought.
This seminar focuses on works of critical theory that hinge on both epistemic and ontological questions of blackness in the (Western) world. Questions to be explored include: What is blackness (not)? Where is it (not)? How is it (not)? Is there blackness before or beyond slavery and colonialism? Are there differences between blackness and black sociality and culture? What are they? Readings include texts by scholars such as Colin Dayan, Saidiya Hartman, and Frank Wilderson III. Fall ENGL0800S S01 17578 TTh 1:00-2:20(06) (D. Ramirez-D’Oleo)

ENGL 0900. Critical Reading and Writing I: The Academic Essay.
An introduction to university-level writing. Students produce and revise multiple drafts of essays, practice essential skills of paragraph organization, and develop techniques of critical analysis and research. Readings from a wide range of texts in literature, the media, and academic disciplines. Assignments move from personal response papers to formal academic essays. Enrollment limited to 17. Banner registrations after classes begin require instructor approval. S/NC. Fall ENGL0900 S01 16336 MWF 12:00-12:50(04) (A. Jackson) Fall ENGL0900 S02 16335 MWF 12:00-12:50(04) ‘To Be Arranged’ Fall ENGL0900 S03 16361 TTh 1:00-2:20(04) (L. Stanley) Fall ENGL0900 S04 16365 MWF 8:00-8:50(04) (R. Ward) Fall ENGL0900 S05 18748 MWF 9:00-9:50(09) ‘To Be Arranged’ Spr ENGL0900 S01 25048 TTh 6:40-8:00PM(18) (A. Jackson) Spr ENGL0900 S03 25109 TTh 1:00-2:20(08) (R. Ward)

ENGL 0930. Introduction to Creative Nonfiction.
Designed to familiarize students with the techniques and narrative structures of creative nonfiction. Reading and writing focus on personal essays, memoir, science writing, travel writing, and other related subgenres with an emphasis on reading authors with a diversity of racial and ethnic identities. May serve as preparation for any 1000-level writing course. While artists can benefit greatly from archival work, they are not typically given the tools to make use of these institutions. This writing intensive course takes a two pronged approach to the problem: embedding students in archives both at Brown and RISD to produce creative, lyrical, and multimedia essays; and exploring how artists have used these institutions for information and inspiration. Enrollment limited to 17. Writing sample may be required. Banner registrations after classes begin require instructor approval. S/NC. Spr ENGL1030F S01 25107 TTh 2:30-3:50(11) (M. Stewart)

ENGL 1030F. The Artist in the Archives.
Designed to familiarize students with the techniques and narrative structures of creative nonfiction. Reading and writing focus on personal essays, memoir, science writing, travel writing, and other related subgenres with an emphasis on reading authors with a diversity of racial and ethnic identities. May serve as preparation for any 1000-level writing course. While artists can benefit greatly from archival work, they are not typically given the tools to make use of these institutions. This writing intensive course takes a two pronged approach to the problem: embedding students in archives both at Brown and RISD to produce creative, lyrical, and multimedia essays; and exploring how artists have used these institutions for information and inspiration. Enrollment limited to 17. Writing sample may be required. Banner registrations after classes begin require instructor approval. S/NC. Spr ENGL1030F S01 25107 TTh 2:30-3:50(11) (M. Stewart)

ENGL 1050Q. Writing the Family.
This course offers a broad exploration of the many kinds of essays you can write in creative nonfiction. You will be looking at how authors structure their pieces and the range of narrative techniques they often use. You can expect workshops, in-class prompts and readings by Jamaica Kincaid, John McPhee, David Foster Wallace, Annie Dillard, David Sedaris and others. Enrollment limited to 17. No pre-requisites. Writing sample may be required. Banner registrations after classes begin require instructor approval. S/NC. Spr ENGL1050Q S01 25049 T 4:00-6:30(16) (A. Jackson)

ENGL 1050A. Narrative.
This course focuses on works of critical theory that hinge on both epistemic and ontological questions of blackness in the (Western) world. Questions to be explored include: What is blackness (not)? Where is it (not)? How is it (not)? Is there blackness before or beyond slavery and colonialism? Are there differences between blackness and black sociality and culture? What are they? Readings include texts by scholars such as Colin Dayan, Saidiya Hartman, and Frank Wilderson III. Fall ENGL1050Q S01 17578 TTh 1:00-2:20(06) (D. Ramirez-D’Oleo)

This seminar focuses on works of critical theory that hinge on both epistemic and ontological questions of blackness in the (Western) world. Questions to be explored include: What is blackness (not)? Where is it (not)? How is it (not)? Is there blackness before or beyond slavery and colonialism? Are there differences between blackness and black sociality and culture? What are they? Readings include texts by scholars such as Colin Dayan, Saidiya Hartman, and Frank Wilderson III. Fall ENGL1050Q S01 17578 TTh 1:00-2:20(06) (D. Ramirez-D’Oleo)

ENGL 1050H. Writing in the American Experience.
With a focus on narrative nonfiction by and about Asian Americans, this writing workshop is for anyone who wants to learn more about Asian American communities while practicing research skills and writing processes. Pre-requisites: ENGL 0930 or any 1000-level nonfiction writing course. Spr ENGL1050H S01 25127 TTh 6:40-8:00PM(18) (G. Talusan)

ENGL 1050Q. Writing the Family.
You must not tell anyone” writes Hong Kingston’s auto-fictional narrator — and then a book of family secrets follows. This class examines how authors (authorized or not) use their families as subject matter, family and family life. Over the term, we’ll work on developing a practical and theoretical ethics of family-writing while contextualizing and
practicing writing nonfiction about the family. Enrollment limited to 17. No prerequisites. Writing sample required. Instructor permission required. Spr ENGL1050CS01 25111 TTh 2:30-3:50(11) (E. Hipchen)

ENGL 1050T. Writing with Literature.
This course will help you write about what you’re reading so that you say what you think more accurately, more convincingly, and with effective support from research. Why does some literature excite you, some bore you, some irritate or anger you, and what ideas does it connect to that you can ferret out in your discussions? Works and authors may include Frankenstein, Kindred, James Baldwin’s essays, Jackie Kay’s Trumpet, essays by Clint Smith, Killing Eve, and music lyrics. Class is offered in the Nonfiction Writing Program and includes workshop classes. Instructor permission required.
Spr ENGL1050T S01 25121 TTh 6:40-8:00PM(18) (E. Hipchen)

ENGL 1050U. Writing Graphic Memoir.
This course investigates forms of sequential art/text that develop "real" lives—lives in the Holocaust, lives with cancer, depressed lives, lives in protest, lives in relationship—as a study for writing graphic memoir. How do text and image interact to produce life writing? How do choices about text affect image and vice versa? What can we make by illustrating stories of people’s lives? Course authors include John Lewis, Alison Bechdel, Karen Beaton, Murasaki Yamada, Marjane Satrapi, Art Spiegelman, and others. Student will be producing graphic memoir and should be comfortable with drawing, though not necessarily artists.
Fall ENGL1050US01 16399 F 3:00-5:30(11) (E. Hipchen)

ENGL 1050V. Writing Wonder, Joy and Awe.
How can we cultivate a sense of wonder amidst personal and societal challenges? Through close attention to the natural world, their own lived experiences, and the voices of others, students will write towards meaning and truth in personal essays that rely on research and reporting. With inspiration from Aimee Nezhukumatathil’s World of Wonders, Ross Gay’s Inciting Joy, Brian Doyle’s One Long River of Song: Notes on Wonder, and other essayists, students will work alone and in a community of writers through the writing process to produce and publish an outward facing component such as a zine. Pre-requisites: ENGL 0930 or any 1000-level nonfiction writing course.
Spr ENGL1050VS01 25221 TTh 2:30-3:50(11) (G. Talusan)

ENGL 1050W. Memoir and Autofiction in the Asian American Diaspora.
What is truth in memoir? What is a lie in autofiction? This course will examine debates about writing about the self as a way for students to consider choices they make as writers. The reading will focus on writing by and about Asian American writers beginning with Maxine Hong Kingston’s The Woman Warrior and Carlos Bulosan’s America is in the Heart through contemporary works such as Ocean Song’s On Earth We’re Briefly Gorgeous and Elizabeth Castillo’s How to Read Now, including graphic memoirs from Malaka Gharib, Mira Jacob, Thi Bui, and Adrian Tomine, and oral storytelling. Students will study how writers have shaped their life experiences into narrative and explore ways to write and express their own through a creative nonfiction project. Pre-requisite: ENGL 0930 or any 1000-level nonfiction writing course.
Fall ENGL1050WS01 16595 TTh 10:30-11:50(13) (G. Talusan)

ENGL 1180P. Further Adventures in Creative Nonfiction.
How does the creative nonfiction writer bear witness to profound political, social, and environmental change? In this course students engage with the world as writers. They will conduct extensive interviews within the Brown community and beyond and will turn those first hand testimonials into a suite of creative nonfiction pieces in various genres including the lyric, personal, “found,” and multi-media essay. Writing sample required. Prerequisite: ENGL 0930 or any 1000-level nonfiction writing course. Class list will be reduced to 17 after writing samples are reviewed during the first week of classes. Preference will be given to English concentrators. Banner registrations after classes begin require instructor approval. S/NC.
Fall ENGL1180P S01 16334 MWF 12:00-12:50(15) (E. Hardy)

ENGL 1180U. Testimony.
For the advanced writer. This course will introduce students to the practice of writing satire and humorous essays. Readings will include works by Jonathan Swift, Mark Twain, Garrison Keillor, Bill Bryson, David Foster Wallace, David Sedaris, and others, and students will develop skills in analyzing, writing, and workshopping in the genre. Prerequisite: ENGL 0930 or any 1000-level nonfiction writing course. Class list will be reduced to 17 after writing samples are reviewed during the first week of classes. Preference will be given to English concentrators. Banner registrations after classes begin require instructor approval. S/NC.
Fall ENGL1180U S01 16357 TTh 9:00-10:20(15) (K. Schapira)
**ENGL 1190Z. The Art of Craft**
What can traditional crafts teach us about our writing? How does building a house or stitching a quilt help us appreciate the ways we can build creative texts? We will consider such questions to help us reflect on our writing as a craft, to invest the key tenets of craft in our writing process, style, and form, and to forge an innovative portfolio of work of which we can feel justly proud. Writing sample required. Prerequisite: ENGL 0930 or any 1000-level nonfiction writing course. Class list will be reduced to 17 after writing samples are reviewed during the first week of class. Preference will be given to English concentrators. Instructor permission required. S/NC.

**ENGL 1200. Independent Study in Nonfiction Writing.**
Tutorial instruction oriented toward some work in progress by the student. Requires submission of a written proposal to a faculty supervisor. Section numbers vary by instructor. Instructor permission required. S/NC.

**ENGL 1310H. The Origins of American Literature.**
Where does American literature begin? Can it be said to have a single point of origin? Can writings by people who did not consider themselves American be the source of our national literary tradition? Does such a tradition even exist and, if so, what are its main characteristics? How does one understand the various diverse traditions that constitute American literature, including African-American, Native American, and many others, into a single object of study—or does one even need to? Authors may include de Vaca, Anne Bradstreet, Benjamin Franklin, and Phillips Wheatley.

**ENGL 1311N. England and the Renaissance.**
New approaches to Latin and Greek letters—the studia humanitatis—that flourished in 14th century Italy rapidly emerged in England in the early 16th century. What does it mean to claim that England had a renaissance? Texts include More's *Utopia* and *Richard III*, Erasmus's *Praise of Folly*, Ascham's *Scholemaster*, poetry from Wyatt and Surrey through Jonson, Donne, Herrick, and Milton.

**ENGL 1316A. Fantasies of Milton.**
*Paradise Lost* has served as the basis for numerous fantasy novels. Even *Comus* has become a (supposedly inappropriate) children's story. How can a seventeenth-century poet's treatment of temptation, disobedience, reason and self-regard come to seem relevant in the present? What do contemporary writers feel compelled to preserve and to change? How might we reimagine Milton? Enrollment limited to 20.

**ENGL 1380. Undergraduate Independent Study in Medieval and Early Modern Literatures.**
Tutorial instruction oriented toward a literary research topic. Section numbers vary by instructor. Instructor permission required.

**ENGL 1510A. Jane Austen and Her Predecessors: The Other History of the Novel.**
This course focuses on the novels of Jane Austen — from *Sense and Sensibility* to *Persuasion*. The course first establishes some familiarity with the earlier women writers of narrative fiction, in order to gain a deeper understanding of the development of the novel and of Austen's place in that rich tradition. Additional readings include work by Aphra Behn, Eliza Haywood, Charlotte Lennox, Elizabeth Inchbald, and Mary Wollstonecraft.
ENGL 1511A. American Literature and the Civil War.
An examination of the way the Civil War is represented in American literature from Reconstruction to the present. Authors to be considered include Grant, Twain, Dixon, Chesnutt, DuBois, Faulkner, Morrison, Ellison.
Fall ENGL1511AS01 16344 F 3:00-5:30(11) (D. Naber)
ENGL 1511K. Gothic Novels and Romantic Poems.
The difference between "high Romantic" poetry and Gothic popular fiction blurs when we look closely at these haunted and haunting texts. This seminar will examine some major Romantic poems by Wordsworth, Coleridge, Keats, Shelley, and Byron in tandem with Gothic novels by Ann Radcliffe, Matthew Lewis, Jane Austen, and Nathaniel Hawthorne.
Fall ENGL1511KS01 16350 MWF 9:00-9:50(09) (M. Redfield)
ENGL 1560A. Jane Austen and George Eliot.
A survey of the major novels of Austen and Eliot. Readings will also include contemporary reviews and responses, letters, and Eliot's critical prose, as well as literary theory and criticism addressing questions such as novelistic form, realism and narrativity, the problem of the subject, the politics of aesthetics, and the changing status of the woman writer in the 19th century. Enrollment limited to 20 seniors and juniors. Instructor permission required.
Fall ENGL1560AS01 16401 W 3:00-5:30(10) (E. Rooney)
ENGL 1561K. Restoration and Eighteenth-Century Drama.
After almost two decades of closure, public theaters re-opened in 1660. This new beginning occasioned new plays, new kinds of performance and production, and new intersections between the stage and society. We will study works by Etherege, Wycherly, Congreve, Dryden, Behn, G. Lillo, Sheridan, and others. Not open to first-year students.
Fall ENGL1561KS01 16346 Th 4:00-6:30(04) (M. Rabb)
ENGL 1561N. What is an Author?: Poe, Hawthorne, Dickinson.
What does it mean to be identified as an "author"? How did the practices of writing and reading change in 19th-century America? This course addresses these questions by reconsidering the literary careers of Hawthorn, Poe, and Emily Dickinson. Our work will investigate literary culture and book history, focusing on 19th-century authors, readers, magazines, publishing, criticism, and popular media. Enrollment limited to 20.
Fall ENGL1561NS01 16908 M 3:00-5:30(16) (P. Gould)
ENGL 1561P. Henry James and the Art of the Novel.
Henry James wrote about fiction as a form of experience: "The power to guess the unseen from the seen, to trace the implications of things." He advises the writer: "Try to be one of the people on whom nothing is lost!" In this course we will read James's critical writings and his major works in the novel and short story.
Spr ENGL1561PS01 25220 Th 4:00-6:30(17) (B. Parker)
ENGL 1561Y. In Excess: Rossetti, Hopkins, Wilde.
This seminar will be a focused close reading of three late Victorian writers whose works might be described as radically excessive insofar as they transgress and push beyond the limits of social, ethical, aesthetic, sexual, and political conventions. What does it mean to describe a text as excessive, and how can excess be considered as a constitutive part of its form? We will concentrate on poetry, plays, and theoretical texts, putting our authors into conversation with contemporary thinkers of excess. Enrollment limited to 20.
Fall ENGL1561YS01 16338 F 3:00-5:30(11) (J. Khalip)
Tutorial instruction oriented toward a literary research topic. Section numbers vary by instructor. Instructor's permission required.
ENGL 1710I. Harlem Renaissance: The Politics of Culture.
The Harlem Renaissance was a remarkable flowering of culture in post-war New York as well as a social movement that advanced political agendas for the nation. This course takes up the relationship between literature and politics by exploring such matters as the urbanization of black America, the representation of the black poor, the influence of white patronage, and the rise of primitivism. Writers may include Hughes, Hurston, Larsen, Fisher, Locke, and McKay.
Spr ENGL1710IS01 25054 Th 9:00-10:20(05) (R. Murray)
ENGL 1710Q. Bloomsbury and Modernism.
The contribution of the avant-garde "Bloomsbury Group" to the development of literary modernism. The focus will be on the central literary figures (Virginia Woolf, E. M. Forster, and T. S. Eliot), but attention will also be paid to the visual arts (Roger Fry, Vanessa Bell, and Post-Impressionism) and to social criticism (Lyttton Strachey, Leonard Woolf, and John Maynard Keynes).
Fall ENGL1710QS01 16322 TTh 9:00-10:20(05) (P. Armstrong)
ENGL 1711O. Radical Pastes, Radical Futures: Literature and the Left.
This course examines American literary representations of leftist social movements in the late twentieth century, including the antiwar movement, anticolonialism, and Black Power nationalism. The class explores autobiographical and journalistic accounts published during the U.S. counterculture as well as novels that present this radicalism after its decline. Authors include Norman Mailer, Angela Davis, Joan Didion, E.L. Doctorow, and John Widerman.
Spr ENGL1711OS01 25055 TTh 1:00-2:20(08) (R. Murray)
ENGL 1711V. Everyday Ornaments: Feminist Poetics and Time.
“What shall our new ornaments be? How should we adorn mortality now?”, asks the poet Lisa Robertson in her introduction to The Weather, a book that is itself dedicated to the everyday practices of atmospheric description. This class will examine how feminist poetic practices can transform the nonmonumental realm of day-to-day life through documenting, description, performance, and ornamentation. In addition to Robertson, Gertrude Stein, Lyn Hejinian, Emily Dickinson, Anne Boyer, CA Conrad, Alexis Pauline Gumbs and others, we will look especially closely at the writings of Bernadette Mayer, who, in her book Midwinter Day, attempts to exhaustively document a single day, December 22, 1978.
Spr ENGL1711VS01 25232 TTh 1:00-2:20(06) (A. Smalevich)
ENGL 1760Y. Toni Morrison.
This course will consider Toni Morrison’s novels and essays through four prisms: her interest in the anxieties of Americanness; her attention to language, which includes a consideration of form and of literary theory; her study of love; and her figuring humanity through the experiences of people who are racially black and (often) gendered female. Not open to first-year students. Enrollment limited to 20.
Fall ENGL1760YS01 16318 TTh 1:00-2:20(06) (K. Quashie)
ENGL 1761D. Hollywood and American Modernism from FDR to JFK.
Study of the interactions among Hollywood and modernism from the beginning of the sound era through the early 1960s. Authors and directors to be considered include, Loos, Fitzgerald, Faulkner, West, Ferber, Hawks, Wilder, Hitchcock, Mann, and Ford. Enrollment limited to 20.
Fall ENGL1761DS01 16345 TTh 9:00-10:20(05) (D. Naber)
ENGL 1761J. Bad, Mad, and Sad: Literatures of Misbehaving Femmes.
In this seminar, we closely analyze fiction and nonfiction writings, as well as films, that explore affective and psychological modes such as mischief, melancholia, and insanity as inflected by gender, race, and class. Readings may include works by authors such as Maryse Condé, Jamaica Kincaid, Nellah Larsen, Andrea Long Chu, Otessa Moshfegh, Jean Rhys, Shola von Reinhold, and Laurie Weeks.
Fall ENGL1761JS01 17576 TTh 10:30-11:50(13) (D. Ramírez-D’Oleo)
ENGL 1761Z. Modernism and Everyday Life.
We examine modernist literature in the context of contemporary art, psychology, and theories of everyday life to ask how this period understood ordinary objects and events. Could they be the proper subject matter of art? In the right circumstances, might they actually be art? Writers include Woolf, Joyce, Hughes, McKay, Stein, Beckett, Freud, deCerteau. One previous literature class strongly recommended. Not open to first-year students.
Fall ENGL1761ZS01 16316 M 3:00-5:30(03) (T. Katz)
ENGL 1780. Undergraduate Independent Study in Modern and Contemporary Literatures.
Tutorial instruction oriented toward a literary research topic. Section numbers vary by instructor. Instructor's permission required.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
ENGL 1900Z. Neuroaesthetics and Reading.
Analysis of the theories of art, reading, and aesthetic experience proposed by neuroscience and cognitive science in light of traditional aesthetics and contemporary literary theory. Enrollment limited to 20. Prerequisite: At least one course on neuroscience or cognitive science and one 1000-level literature course. Instructor permission required.
Spr ENGL1900Z S01 25040 W 3:00-5:30(10) (P. Armstrong)

ENGL 1901H. The Late 60s: Film Countercultures.
On representative late-60s counterculture movies concerned with anti-authoritarianism; hippy Bohemianism; social and sexual experimentation; dropping out; and psychedelia. Bookended by rock music festival documentaries (Monterey Pop; Gimme Shelter; Woodstock), the seminar is mostly concerned with feature films (The Graduate; Bonnie and Clyde; 2001; Midnight Cowboy; Easy Rider; Medium Cool). It will also consider some underground art cinema of Kenneth Anger and Andy Warhol. Enrollment limited to 20 juniors and seniors in English and MCM. Instructor permission required.
Fall ENGL1901H S01 16347 W 3:00-5:30(10) (R. Rambuss)

ENGL 1911. Narrating the Anthropocene (ENVS 1911).
Interested students must register for ENVS 1911.

ENGL 1991. Senior Honors Seminar in English.
Weekly seminar led by the Advisor of Honors in English. Introduces students to sustained literary-critical research and writing skills necessary to successful completion of the senior thesis. Particular attention to efficient ways of developing literary-critical projects, as well as evaluating, incorporating, and documenting secondary sources. Enrollment limited to English concentrators whose applications to the Honors in English program have been accepted. Permission should be obtained from the Honors Advisor in English. S/NC
Fall ENGL1991 S01 16339 Th 4:00-6:30(04) (J. Khalip)

Independent research and writing under the direction of a faculty member. Permission should be obtained from the Honors Advisor in English. Open to senior English concentrators pursuing Honors in English. Instructor permission required.
Spr ENGL1992 S01 25050 Arranged (J. Khalip)

ENGL 1993. Senior Honors Seminar in Nonfiction Writing.
This course is designed for students accepted into the Nonfiction Honors Program. It will be run in workshop format, and will focus on research skills and generative and developmental writing strategies for students embarking on their thesis projects. Weekly assignments will be directed toward helping students work through various stages in their writing processes. Students will be expected to respond thoughtfully and constructively in peer reviewing another’s work. Open to seniors who have been admitted to the Honors Program in Nonfiction Writing. Instructor permission required. S/NC
Fall ENGL1993 S01 16369 M 3:00-5:30(03) (J. Egan)

Independent research and writing under the direction of the student’s Nonfiction Writing honors supervisor. Permission should be obtained from the Honors Advisor for Nonfiction Writing. Open to senior English concentrators pursuing Honors in Nonfiction Writing. Instructor permission required.
Spr ENGL1994 S01 25046 Arranged (J. Egan)

ENGL 2210. Proseminar.
This seminar, required for first-year graduate students in English, considers the state and stakes of literary studies today. The course aims to familiarize students with contemporary critical debates and stances in the wider discipline, and to engage with current methodologies, theories, and analytical tensions. We also address issues of professionalization as they relate to the first years of graduate work. Enrollment limited to 10. S/NC.
Fall ENGL2210 S01 16352 Th 1:00-4:30(12) (D. Kim)

ENGL 2360V. Literature of Disability.
This seminar explores disability studies, with attention to both theory and literature as distinctive forms of thought about issues crucial to this burgeoning subfield. Core primary texts will likely be those of Sophocles (the Theban Plays) and Shakespeare (King Lear, Othello, and Richard III), as well as more recent first-person accounts of disability (Schreber’s Memoirs of My Nervous Illness, Kleege’s Sight Unseen, and Clare’s Brilliant Imperfection). Theorists may include Chris Bell, Michael Berube, Eli Clare, Lennard Davis, Rosemarie Garland-Thomson, Georgina Kleege, Robert McRuer, David Mitchell, Ato Quayson, Ellen Samuels, Tobin Siebers, and Susan Snyder. Concepts to be discussed include care versus cure, narrative prosthetics, and aesthetic nervousness. Throughout, we will consider intersections of disability with gender, sexuality, and race, and what a literary “disability aesthetics” might add to thinking about disability at the present time.
Fall ENGL2360V S01 17028 M 3:00-5:30(03) (J. Kuzner)

ENGL 2380. Graduate Independent Study in Medieval and Early Modern Literatures.
Section numbers vary by instructor. May be repeated for credit. Instructor’s permission required.

ENGL 2450. Exchange Scholar Program.
Fall ENGL2450 S01 16109 Arranged ‘To Be Arranged’
Spr ENGL2450 S01 24862 Arranged ‘To Be Arranged’

ENGL 2500. Romantic Address.
This course explores the figure of address in conjunction with the notion of romanticism. Questions to be taken up from this angle include: the trope of apostrophe; lyric as a genre; locodescriptive and postal dimensions of “address”; psychoanalytic, ethical, and political dimensions of literary address; whether particular kinds of speaking- or writing-to can be called “romantic.” Possible authors include: Wordsworth, Coleridge, Keats, the Shelleys, Blake, Herbert, Dickinson, Hopkins, Tennyson, and perhaps some twentieth-century poets, in conjunction with theoretical, philosophical and psychoanalytic writings on lyric, romanticism, and the question of address.
Spr ENGL2500 S01 25126 Th 4:00-6:30(17) (J. Khalip)

ENGL 2510. Theory and Theory of the Novel.
The object of this course is then to retrieve the interest and insights of novel theory and its objects, in conversation with “theory” (especially in its deconstructive, postmodern, Marxist, psychoanalytic, and anti- or post-humanist) variants. It is an introduction to both sets of theoretical discourses by having them talk back to one another. Authors may include: Lukács (definitely), Bakhtin, Auerbach, Genette, Lacan, Derrida, Jameson, Butler. We will also read (as a way to check our work) novels that may include: David Copperfield, Wings of the Dove.
Fall ENGL2510 S01 18215 Th 4:00-6:30(04) (B. Parker)

Section numbers vary by instructor. May be repeated for credit. Instructor’s permission required.

ENGL 2700A. Capitalism & its Metamorphoses.
Not only has capitalism been defined in many different ways (as this or that); it also redefines itself endlessly. Is capitalism as metamorphosis the best definition of it? And if so, could we encapsulate capitalism in the conjunction or preposition “as,” which registers both the expression of equivalence (“as much as”) and the fiction of it (“as if,” “as though,” “as it were”). This collaborative humanities seminar will explore the metamorphic masks of capitalism through readings ranging from Marx (capitalism as vampirism) and Benjamin (capitalism as religion) to Sylvia Wynter (capitalism as plantation). We will approach literary genres such as “it-narratives” (where money narrates its own circulation) and reflect upon the fictionality of personhood (corporations acting as persons), as well as metaphors of mining (data) and extraction (energy) as shared logics of the “capitalocene.”
Fall ENGL2700A S01 17725 W 3:00-5:30(10) (T. Bewes)

ENGL 2760M. Postcoloniality and Globalism.
This seminar is an introduction to postcolonial theory: its precursors, key figures, and ongoing configurations in anglophone literary studies. Starting with Stuart Hall’s provocative question posed in a 1996 essay --“When was the post-colonial?”--we will ask why it became possible to name an intellectual current “postcolonial” in the 1990s. We will consider how literary and cultural criticism got to the moment of Hall’s intervention, and where we currently are in terms of archives and the aims of postcolonial humanistic inquiry. Readings will move between theoretical and literary
texts, allowing us to explore how theory and literature can enrich or complicate one another. Issues to be addressed include: modernity, cultural nationalism, racialization, and the idea of "literature" itself, understood as motion of critique. Authors will include: Bhabha, Césaire, Chow, Fanon, Hartman, Morrison, Said, Salih, Spillers, Spivak, Walcott, Wicomb, Wynter.

ENGL 2761F. The Racial Lives of Affect.
This course explores both dominant and emergent theoretical paradigms that anatomize the affective dimensions of racialized subjectivity in the US with a particular emphasis on recent scholarship that is linked with the field of affect theory. Rather than attempting an exhaustive or definitive mapping of that field, this seminar focuses on those thinkers whose works enhance our understandings of race. Enrollment limited to 15.
Spr ENGL2761F S01 26344 W 3:00-5:30(10) (D. Kim)

ENGL 2780. Graduate Independent Study in Modern and Contemporary Literatures.
Section numbers vary by instructor. May be repeated for credit. Instructor’s permission required.

ENGL 2950. Seminar in Pedagogy and Composition Theory.
An experimental and exploratory investigation into writing as a preparation for teaching college-level writing. Reviews the history of writing about writing, from Plato to current discussions on composition theory. Against this background, examines various processes of reading and writing. Emphasizes the practice of writing, including syllabus design. Enrollment restricted to students in the English Ph.D. program.
Fall ENGL2950 S01 16349 W 12:00-2:30(08) (D. Kim)

ENGL 2970. Preliminary Examination Preparation.
For graduate students who have met the tuition requirement and are paying the registration fee to continue active enrollment while preparing for a preliminary examination.
Fall ENGL2970 S01 16110 Arranged "To Be Arranged"
Spr ENGL2970 S01 24863 Arranged "To Be Arranged"

ENGL 2990. Thesis Preparation.
For graduate students who have met the residency requirement and are continuing research on a full time basis.
Fall ENGL2990 S01 16111 Arranged "To Be Arranged"
Spr ENGL2990 S01 24864 Arranged "To Be Arranged"

ENGL XLIST. Courses of Interest to Students Concentrating in English.

Environmental Studies

ENVS 0070C. Transcending Transportation Impacts.
Students will be engaged in interdisciplinary analyses of the life-cycle costs, environmental impacts, technical developments, and policy innovations at the local and regional level. We will discuss technical modifications in vehicles, such as plug-in hybrids, as well as policy and planning on intermodal systems, recycle-a-bike programs, intelligent transportation systems, and other innovations. Enrollment limited to 19 first year students. Instructor permission required.
Fall ENVS0070CS S01 17360 TTh 1:00-2:20(06) (K. Teichert)

This is an engaged scholars course that offers an introduction to contemporary environmental issues. We explore the relationships between human societies and the non-human environment through a survey of topical cases, including: human population growth and consumption, global climate change, toxins, waste streams, water resources, environmental justice and ethics, and agro-food systems. This course also analyzes various solutions—social, political, technical, and economic—put forth by institutions and individuals to address questions of environmental sustainability. Each student must register for a 50-minute weekly engaged scholar lab in addition to lectures. Each lab will partner with a community organization to complete an engaged, environmental project. See class notes for reserved seating registration set up by semester level.
Fall ENVS0110 S01 18346 MWF 10:00-10:50(14) (D. King)

ENVS 0150. Climate Futures and Just Transitions.
The just transition is a foundational concept for labor-environmentalism and it has generated a range of productive debates between labor, feminist, environmental justice, indigenous forces and other actors about the possibilities, genuine dilemmas and trade-offs that confront all attempts to think through the challenge of decarbonization. Following the incorporation of the term "just transition" into the preamble to the Paris Agreement in 2015 at COP 21, it has also taken on a further life of its own in the international climate space as many leading climate NGOs, business elites and international unions articulate their commitment to decarbonization through the language of just transitions. This course seeks to build a reconstructive environmental sociology of the just transition, incorporating debates from political ecology, energy/technology studies, critical art and design studies and the climate social sciences.
Spr ENVS0150 S01 25718 Th 4:00-7:00 (J. Roberts)

ENVS 0465. Climate Solutions - A multidisciplinary perspective.
This course will explore solutions to the climate crises through the lens of multiple disciplines. Lectures will cover topics in physical science, economics, political science, persuasive communication, social science, and equity. Online lectures by disciplinary experts from around the country, but developed specifically for this class, will be the basis for the in class discussions and activities led by Brown Faculty.
Fall ENVS0465 S01 17386 W 3:00-5:30(10) (S. Porder)

Introduces students to environmental science and the challenges we face in studying human impacts on an ever-changing earth system. We will explore what is known, and not known, about how ecosystems respond to perturbations. This understanding is crucial, because natural systems provide vital services (water and air filtration, climate stabilization, food supply, erosion and flood control) that cannot be easily or inexpensively replicated. Special emphasis will be placed on climate, food and water supply, population growth, and energy.
Spr ENVS0490 S01 25719 Th 10:30-11:50(09) (T. Kartzinel)

In this course, we will examine ocean management for resilience and conservation: policy design, implementation, and effects on ecosystems and people. The use of tools such as marine protected areas and marine spatial planning has exploded in recent decades, and global interest in alternative energy, food security, and marine biodiversity conservation has heightened the use, and critique of these key tools in ocean conservation and resilience. Co-taught by an interdisciplinary team (a coastal ecologist and an oceans governance scholar), this course will explore questions such as: What management tools are available? What do they do (and not do) and how? How are they created and managed in particular contexts? Who gets to decide and why?
Fall ENVS0717 S01 18674 MWF 1:00-1:50(08) (L. Acton)

This course considers environmental issues through an economic lens. It is loosely arranged around four questions: why are markets so powerful? Why do markets fail to deliver environmental goods? If so, why don’t we do that? How are they created and managed in particular contexts? Who gets to decide and why?
Fall ENVS1350 S01 17662 MWF 2:00-2:50(01) (A. Poterack)

ENVS 1400. Sustainable Design in the Built Environment.
Course develops students’ analytical abilities to apply fundamental concepts of environmental issues, building systems analysis, and architectural and engineering design. Students learn how to reduce the negative environmental impacts, and maximize positive social and economic impacts, of the built environment. Students cultivate applied skills in sustainable design; including fundamental energy calculations, heat flow analysis, schematic design analysis, and building operating impacts assessment. Course emphasis is on building energy flows. Students conduct group and independent research projects, providing the opportunity to study broader impacts of the built environment and propose solutions. Class meetings combine lectures, student presentations, and group workshops. To join the classlist if there are no available seats, please enter an override request reason and briefly summarize your learning objectives in Courses@Brown. Your concentration and semester information is automatically entered.

For up-to-date course information please visit Courses@Brown (https://cab.brown.edu).
ENVS 1421. Podcasting For the Common Good: Storytelling with Science.
How can we use podcasts to spread compelling information about the future of our planet? In this hands-on, interactive course, we bring new perspective to environmental topics by integrating scientific research with audio storytelling techniques. Students will learn how to find answers to environmental questions, use recording equipment, conduct interviews, write scripts, and make a finished product. Students will produce several audio projects for the course including an episode for Possibly-a podcast produced through a partnership between IBES and The Public’s Radio. Students who want to enroll should write a one page (max) statement about how skills related to explaining environmental and health issues will help them in their educational trajectory. Statements can be emailed to Megan_Hall@Brown.edu.

Fall ENVS1440 S01 17361 TTh 9:00-10:20(05) (K. Teichert)

ENVS 1490. SES-Independent Study/Science Writing.
The culmination of the Semester in Environmental Sciences at the Marine Biological Laboratory is an independent research project that builds on the topics covered in the aquatic and terrestrial ecosystem analysis core courses. In addition students participate in a seminar designed to help improve their ability to tell a lay reader about science. Enrollment is limited to students in this program. Instructor permission required.
Fall ENVS1490 S01 11578 Arranged 'To Be Arranged'

ENVS 1491. SES-Terrestrial Ecosystem Analysis.
Team-taught course examining: the structure of terrestrial ecosystems fundamental biogeochemical processes, physiological ecology, impacts of environmental change on the landscape; the application of basic principles of ecosystem ecology to investigating contemporary environmental problems. Part of the Semester in Environmental Science at the Marine Biological Laboratory; enrollment is limited to students in this program. Instructor permission required.
Fall ENVS1491 S01 11579 Arranged 'To Be Arranged'

ENVS 1492. SES-Aquatic Ecosystem Analysis.
Team-taught course examining the structure of freshwater, estuarine and marine ecosystems; impacts of environmental change on the landscape at local regional and global scales; the application of basic principles of ecosystem ecology to investigating contemporary environmental problems such as coastal eutrophication, fisheries exploitation. Part of the Semester in Environmental Science at the Marine Biological Laboratory; enrollment is limited to students in this program. Instructor permission required.
Fall ENVS1492 S01 11580 Arranged 'To Be Arranged'

ENVS 1493. SES-Environmental Science Elective.
Two environmental science electives are offered each fall semester as part of the Semester in Environmental Science at the Marine Biological Laboratory, including: aquatic chemistry, mathematical modeling of ecological systems and microbial ecology. Enrollment is limited to students in this program. Instructor permission required.
Fall ENVS1493 S01 11581 Arranged 'To Be Arranged'

ENVS 1545. The Theory and Practice of Sustainable Investing.
21st century businesses and investors face a broadening and deepening array of Environmental, Social, and Governance (ESG) risks and opportunities. Climate change, water scarcity, community conflicts, resource depletion, supply chain breakdowns, worker well-being and economic inequality pose present material challenges that make sustainability an imperative for successful corporations and investors. We will examine current ESG strategy, trends, future scenarios, players, and frameworks and integrate that theory with practical investment performance analysis, metrics, and study of screens, asset classes, and diversification.
Fall ENVS1545 S01 17363 TTh 6:40-8:00PM(02) 'To Be Arranged'

The topics we focus on include: the use of human research subjects, the corporate use and corruption of science, health and development, and climate change’s impact on environmental health. What are the most effective ways to improve environmental health on the local, national, and/or global level? Developing a plan(s) to achieve improvements in environmental health is the main purpose of the course. Various reading, videos, and guest faculty will address this question, but the answer is not known. If the answer was known these problems (and this course) would not exist. Students will be expected to develop creative approaches to various solution(s) eg. Tiktok, TV show, plan for community organizing, legislation etc.
Fall ENVS1552 S01 17804 Th 4:00-6:30(04) (D. Eglman)

Hunger amidst plenty is an enduringly wicked problem. Modern agriculture has become increasingly productive, fueling the global grain trade, the meatification of human diets, and the exponential expansion of food and non-food products. Still, the number of people who are hungry, food insecure, and/or malnourished is stable or increasing in various parts of the world. As global population rises, calls to further increase and intensify agricultural production ring out across the globe. Through (agro-)ecological, feminist, and justice lenses, we will explore the political economy of food insecurity and agriculture, the political ecology of agricultural development, and critical humanist approaches to the past, present, and future of farming. We will connect with human geographers, sociologists, anthropologists, historians, Indigenous scholars, Black Studies scholars, feminists, and people working outside of academia.
Fall ENVS1554 S01 18683 MWF 11:00-11:50(16) (M. Schneider)

Over three decades, sufficient and equitable policies addressing the crisis of climate change have been elusive, and US leadership is crucial for an adequate global response. After several weeks of readings and lectures on climate policy, the course shifts to team-based research to produce strategic, policy-relevant briefings and scholarly outputs, some with partner organizations. Students will travel to D.C. for five days in October to attend meetings with experts and staff from government agencies, industry organizations, think tanks, journalists and environmental NGOs, and to hold briefings on our joint research.
Fall ENVS1574 S01 17364 M 3:00-5:30(03) (J. Roberts)

This course investigates current environmental impacts and risks related to urban infrastructure systems. Students analyze efforts to minimize negative environmental, health and economic impacts of the built environment. The course explores urban initiatives to increase sustainability and resiliency of infrastructure systems in anticipation of increased risks related to climate change. The goal is to learn the rational, process and technical aspects of the practice of environmental stewardship and resilience planning in an urban context. Students will develop competence in technical analysis, policy analysis, and program implementation through case studies and systems analyses. To join the waitlist if there are no available seats, please enter an override request reason and briefly summarize your learning objectives in courses@brown.edu.
Your concentration and semester information is automatically entered.
Pr ENVS1580 S01 25926 TTh 10:30-11:50(09) (K. Teichert)

The diminishing quality of Earth’s systems and resources carries profound implications for the fulfillment of human rights and aspirations. But even as Western knowledge systems understand better the intrinsic interdependencies between humans and the non-human, policy gridlock persists. Indeed, scientific findings are regularly contested on political grounds. The purpose of this course is to learn how to apply diverse knowledge from Indigenous to Modern to map the relevant policy in problems at the intersection of human rights and environmental integrity, and to develop approaches to address them in ways that are creative, effective, responsible and just. Students are admitted in the following order: capstone fulfillment, core requirements, EEPS or ENVS concentrator, and others, in the order received in each category.
Fall ENVS1615 S01 18356 TTh 2:30-3:50(12) (A. Lynch)

ENVS 1823. Climate Media, Discourse, and Power.
How does the American public think about and talk about climate change, and how are these discussions shaped by the interventions of powerful interest groups and political elites? In this course, we will consider how individuals’ understandings of climate change are deeply shaped by
relations of power, from corporate strategies to delay meaningful action on climate change, to the norms and operations of media institutions, to dominant environmentalist discourses that fail to engage larger socioeconomic structures. While we will primarily discuss how public understanding has historically been constrained by the operation of power, we consider throughout possibilities for crafting climate narratives that resist these limitations to pursue transformative change. This course will focus primarily on climate politics in the United States, but we will also consider other national contexts and impacts on communities across the globe.

| Fall ENVS1823 S01 18561 TTh 10:30-11:50(13) | (R. Wetts) |
| ENVS 1905. Thinking with the Elements: Environmental Theories and Praxis. | Structured around critical “elements” in the contemporary relationship between people and the environments they inhabit—from water and carbon to forests and phosphorus—this course offers a tour through debates and conversations about environmental politics, knowledge production, and action. Through readings in decolonial, Black and Indigenous theory, fiction; films; and visits from scholars and practitioners, the goal of the class is to offer students fresh methods for understanding the origins of environmental inequalities based on racial, gendered and other forms of hierarchical thinking; how communities have and are living otherwise, and ways to imagine the kinds of social and ecological worlds we hope to build. Individual and group writing and other creative work are integral to this senior capstone course. |
| Fall ENVS1905 S01 18646 M 3:00-5:30(03) | (B. Demuth) |

| ENVS 1911. Narrating the Anthropocene. | Narratives are key to how we understand our world—making nonfiction storytelling a critical part of comprehending and acting in a time of environmental crises. Through regular writing practice and discussions of readings and other media—including podcasts and film—this class will examine models for how nonfiction narratives can foster a better understanding of past and present environmental change, imagine an environmentally just future, explain technical information for a broad audience, and support an informed, politically active citizenry. Visits from authors and creators will supplement class discussion, as assignments build toward each student completing an environmentally-focused creative narrative project. |
| Fall ENVS1911 S01 17362 Th 4:00-6:30(04) | (B. Demuth) |

| ENVS 1917. Ice, Coral, Dust and Pollen: Multidisciplinary Approaches to Climate History. | Scholars in the humanities increasingly recognize that human societies are ecosystems enmeshed in global biogeochemical cycles, and this brings their research into communication with the natural sciences. This course focuses on one area in which these two domains of knowledge meet, namely climate history, a field that forces historians to employ biological and geological materials as sources. The difficulties faced in working between these fields often reflect different methodologies, research questions and writing styles between the humanities and the sciences, something this course will explore by juxtaposing work from the sciences, history, and other branches of the humanities. |
| Spr ENVS1917 S01 25717 W 3:00-5:30(10) | (B. Lander) |

| ENVS 1926. Wasted: Rethinking Chemical Environments. | This senior seminar investigates chemical and other forms of industrially produced waste and its impacts on environment and society. We will take an interdisciplinary approach, drawing on scholarship from anthropology, geography, history, sociology, science studies, and discard studies. We will follow chemicals around the world, from their inception in Western laboratories to their disposal in landfills and waste pits of the global South. Along the way, we will consider how corporations engineer chemicals’ manufacture, governments regulate their use, sciences measure their human and ecological effects, and communities contend with the lived realities of chemical exposure and toxic suffering. |
| Fall ENVS1926 S01 18235 W 3:00-5:30(10) | (S. Frickel) |

| ENVS 1971. Independent Study. | First semester of individual analysis of environmental issues, required for all environmental studies concentrators. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course. Instructor override required prior to registration. |

| ENVS 1971. Independent Study. | Second semester of individual analysis of environmental issues, required for all environmental studies concentrators. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course. Instructor override required prior to registration. |

| ENVS 2450. Exchange Scholar Program. | First semester of thesis research during which a thesis proposal is prepared. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course. Instructor override required prior to registration. |

| ENVS 2980. Reading and Research. | Fall FREN0100 S04 17784 TTh 1:00-2:20(07) (S. Gaillard) |
| ENVS 2981. Reading and Research. | Fall FREN0100 S03 17783 TTh 1:00-2:20(07) (S. Gaillard) |

| French Studies | Fall FREN0100 S02 17782 TTh 10:30-11:50(07) (S. Gaillard) |

| FREN 0100. Basic French. | This is the first half of a two-semester course. Four meetings a week for oral practice. One hour of work outside of class is expected every day (grammar/writing, oral practice, reading). Enrollment limited to 15. |

| FREN 0200 with written permission, or placement. | Fall FREN0100 S01 17779 MF 9:00-9:50(07) (S. Gaillard) |

| FREN 0300. Intermediate French I. | A four-skill language course that stresses oral interaction in class (grammar/writing, oral practice, reading). Materials include drills, small group activities, and skits. Class includes videos, a French film, short stories, and various other authentic documents. Prerequisite: FREN 0200 or placement. |

| FREN 0400. Intermediate French II. | Continuation of FREN 0300 but may be taken separately. A four-skill language course that stresses oral interaction in class (three meetings per week plus one 50-minute conversation section). Materials include audio activities, film, and a novel. Short compositions with systematic grammar practice. Prerequisite: FREN 0300, FREN 0200 with permission, or placement. |

| FREN 0500. Writing and Speaking French I. | A four-skill language course that stresses oral interaction in class. Thematic units will focus on songs, poems, a short novel, a graphic novel, films and a longer novel. Activities include a creative project using Comic Life, and a systematic grammar review. Prerequisite: FREN 0400, FREN 0200 with written permission, or placement. |
In French. Prerequisite: a course at the 600- or 700-level or equivalent proficiency. Contact the instructor to verify your proficiency if you have not taken French at Brown. Taught in French.

FREN 1330A. Fairy Tales and Culture. Fairy tales, which occur in almost every culture, encapsulate in (usually) succinct form many of the pressing concerns of human existence: family conflict, the struggle for survival, sexual desire, the quest for happiness, etc. This course explores why writers and readers have been attracted to the fairy-tale form through a study of its key elements and its uses in adult and children's literature, book illustration, and film. Special attention given to French contes de fées, along with North American, English, German, Italian and selected non-Western fairy tales. Discussions and readings in English with French, German, and Italian originals on reserve.

Fall FREN1330A S01 17957 MWF 10:00-10:50(14) (L. Seifert)

FREN 1710K. Frantz Fanon: Critical Theory and Decolonizing Practices between the Caribbean and (North) Africa. Frantz Fanon is one of the most prominent thinkers of anti-colonialism. This course seeks to examine the idea of “Lumières” in Eighteenth-century France through the reading of some of the major authors of the period. Focusing on the relationship between theoretical and fictional works we will analyze the concepts central to the French Enlightenment: happiness, progress and freedom as they are formulated both in fiction (novels and plays) and in theoretical texts. Readings will include major texts by Montesquieu, Voltaire, Diderot, Rousseau, as well as other writers and philosophers. Conducted in French. Prerequisite: a course at the 0600- or 0700-level or equivalent proficiency. Contact the instructor to verify your proficiency if you have not taken French at Brown.

Fall FREN1710K S01 18924 W 3:00-5:30(10) "To Be Arranged"

FREN 1790. Individual Independent Study. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

Instructor permission required.

FREN 1970. Senior Thesis. Independent study in an area of special interest to the student, with close guidance of a member of the staff, and leading to a major paper. Required of candidates for honors, and recommended for all senior concentrators. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

FREN 2150E. Theories et fictions des Lumières. This course seeks to examine the idea of “Lumières” in Eighteenth-century France through the reading of some of the major authors of the period. Focusing on the relationship between theoretical and fictional works we will analyze the concepts central to the French Enlightenment: happiness, progress and freedom as they are formulated both in fiction (novels and plays) and in theoretical texts. Readings will include major texts by Montesquieu, Voltaire, Diderot, Rousseau, as well as other writers and philosophers. Conducted in French. Prerequisite: a course at the 0600- or 0700-level or equivalent proficiency. Contact the instructor to verify your proficiency if you have not taken French at Brown.

Fall FREN2150E S01 17959 Th 4:00-6:30(04) (O. Mostefai)

FREN 2450. Exchange Scholar Program.

Fall FREN2450 S01 16115 Arranged "To Be Arranged"
Spr FREN2450 S01 24867 Arranged "To Be Arranged"

FREN 2620M. Histoire globale du 19e siècle : Une étude comparative de l’Empire français et des autres Empires. Anglophone postcolonial theory has tended to marginalize or silence the history of the French Empire, focusing rather on the British Empire and the colonization of India. Decolonial perspectives have in turn privileged 1492 and the colonization of the Americas as the key date for thinking the history of modernity. This seminar will consider the theoretical limits of both these perspectives by foregrounding the archives of the French Empire from the end of the 18th century through the long 19th. The objective is to offer a synoptic vision of French imperialism through this

For up-to-date course information please visit Courses@Brown.edu (https://cabrown.edu).
period, articulating an overview (drawing from generalist accounts) with a more detailed analysis of primary sources (literature, writings by public intellectuals, philosophical writings) and of French-language archives (paying particular attention to such authors as the Saint-Simonians). Taught in French. Advanced undergraduates welcome, with instructor permission.

Fall FREN2620M S01 18327 T 1:00-3:30(06) "To Be Arranged"

FREN 2970. Preliminary Examination Preparation.
For graduate students who have completed their course work and are preparing for a preliminary examination.

Fall FREN2970 S01 16116 Arranged "To Be Arranged"
Spr FREN2970 S01 24887 Arranged "To Be Arranged"

FREN 2980. Reading and Research.
Work with individual students in connection with special readings, problems of research, or preparation of theses. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

FREN 2990. Thesis Preparation.
For graduate students who have met the residency requirement and are continuing research on a full time basis.

Fall FREN2990 S01 16117 Arranged "To Be Arranged"
Spr FREN2990 S01 24869 Arranged "To Be Arranged"

FREN XLIST. Courses of Interest to French Concentrators.

Gender and Sexuality Studies

GNSS 0120. Introduction to Gender and Sexuality Studies.
Explores the interdisciplinary fields of Gender and Sexuality Studies, considering the relation between formations of gender and those of sexuality across a range of historical and disciplinary contexts. Considers how both sexuality and gender are shaped in relation to race and ethnicity, economic inequality, and the postcolonial legacy.

Spr GNSS0120 S01 26195 MWF 1:00-1:50(06) (W. Lee)

GNSS 0630. Is This Working? Doing as Value.
This interdisciplinary course will consider the ways race, gender, ableism, transnational exchange, slavery, technology, immigration, environmental degradation, and the carceral state are implicated in the ways work is divided, practiced, and compensated. We will explore the ways productivity, citizenship, and respectability conspire around the idealized 40-hour week work and the ways some bodies are used up and rendered debilitated by labor. Why are laziness, unproductivity, and dependence considered moral failings, and how do we define these traits? In the context of nearly two years of living with a pandemic, crushing student debt, rising inflation, and the monetization of everything, this course will toggle between questions of value and values, renunciation and fulfillment, exploitation and satisfaction. We will study a variety of written genres by authors such as DuBois, Graeber, Hochschild, Marx, Melville, Mosfogh, and Weeks.

Fall GNSS0630 S01 18083 TTh 2:30-3:50(12) (D. Davis)

GNSS 071OB. Queer Comics.
Although comics have always been a little queer (Batman and Robin anyone?), not all superheroes wear capes. This class brings together queer studies, 20th century history, literary criticism, media, and comics studies to explore the cultural significance of queer comics as a form of activism from the late 1950s to the present day. Since comics often fail to stay within the confines of just one medium, will look at the ways in which comics have crossed over to film, musicals, and fashion. Our focus in this class will be mostly on the United States, but we will also consider the rich transnational culture of queer comics. You will have the opportunity to focus on specific topics of interest to you within queer comics in two short essays (3-4 pages) and a final essay (8-12 pages) or creative project.

Fall GNSS071OBESO1 18088 TTh 10:30-11:50(13) (H. Sikk)

GNSS 1711. Speech and Silence, Trust, Rage and Fear: An Inquiry into the Possibility of Intimacy.
Seminar examines intimate relationships: problems that arise from failures of couples to speak to each other, when instead of silence, they fail to speak openly, honestly, from a position of equality -particularly about their feelings, needs and desires. We examine the moral agency of men and women as it is reflected in what couples do, say and think. We look at whether relationships fail when men or women consciously or unconsciously choose women who fall into oppressive, subordinate postures and examine whether men take advantage of these postures. Class material from literature, films, and readings from philosophical, literary, and legal essays.

Fall GNSS1711 S01 17960 W 3:00-5:30(10) (P. Foa)

GNSS 1810. Independent Study and Research.
Independent reading and research for upper-level students under the direction of a faculty member. Please check Banner for the correct section number and CRN to use when registering for this course.

GNSS 1820. Independent Study and Research.
Independent reading and research for upper-level students under the direction of a faculty member. Please check Banner for the correct section number and CRN to use when registering for this course.

Independent research under the direction of a faculty member, leading to a thesis. Required of honors candidates. Open to seniors only. Instructor permission required.

Independent research under the direction of a faculty member, leading to a thesis. Required of honors candidates. Open to seniors only. Instructor permission required.

GNSS 1990. Senior Seminar.
A research seminar focusing on the research and writing of the participants. Required of senior concentrators; open to other advanced students by permission.

Fall GNSS1990 S01 18087 T 4:00-6:30(07) (H. Sikk)

GNSS 2010Q. Pembroke Research Seminar: De-Colonial Retro-Speculation.
This seminar looks back and forward to the liberationist movements, practices, art works, and theories of the recent past (1960 to 2000) by queer, feminist, and/or global majority scholars, artists, political figures, and practitioners so as to offer new modes of understanding, and intervening into, our tumultuous present. While not imposing a progressive timeline, this seminar hopes to think through how such retro-speculation may help us understand our lives under the last half century of global neoliberal domination, including U.S. interventions in Latin America, Africa, and Asia, post-Cold War labor regulation, predatory global trade policies, and the valorization of human capital, developmentalism, and entrepreneurialism. Work we will consider includes, but is not limited to: women of color feminisms; Global South labor and justice movements; decolonial and anti-colonial theories; global gay, lesbian, and queer/trans movements; and abolitionist creative methodologies.

Fall GNSS2010Q S01 17936 W 10:00-12:30(16) (P. Ybarra)

GNSS 2020Q. Pembroke Research Seminar: De-Colonial Retro-Speculation.
This seminar looks back and forward to the liberationist movements, practices, art works, and theories of the recent past (1960 to 2000) by queer, feminist, and/or global majority scholars, artists, political figures, and practitioners so as to offer new modes of understanding, and intervening into, our tumultuous present. While not imposing a progressive timeline, this seminar hopes to think through how such retro-speculation may help us understand our lives under the last half century of global neoliberal domination, including U.S. interventions in Latin America, Africa, and Asia, post-Cold War labor regulation, predatory global trade policies, and the valorization of human capital, developmentalism, and entrepreneurialism. Work we will consider includes, but is not limited to: women of color feminisms; Global South labor and justice movements; decolonial and anti-colonial theories; global gay, lesbian, and queer/trans movements; and abolitionist creative methodologies.

Spring GNSS2020Q S01 26196 W 10:00-12:30 (P. Ybarra)

GNSS 2450. Exchange Scholar Program.

GNSS 2720. Graduate Independent Study.
Section numbers vary by instructor. Instructor's permission required.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
GNSS XLIST. Courses of Interest to Concentrators in Gender and Sexuality Studies.

Fall 2023

The following courses have a primary focus on women or gender or make significant use of modes of feminist or queer analysis. They may count toward the concentration in Gender and Sexuality Studies through the Pembroke Center. Please check with the sponsoring department for times and locations.

African Studies
AFRI 1215 The Visual Culture of 1930s: Race, Gender, and the Laboring Body

American Studies
AMST 1600C The Anti-Trafficking Savior Complex: Saints, Sinners, and Modern-Day Slavery
AMST 1700X Global Macho: Race, Gender, and Action Movies
AMST 1906X Black Queer Life

East Asian Studies
EAST 1307 Sex and Society in Modern China

Education
EDUC 0515 Teaching LGBTQIA History

English
ENGL 0710X Black Poetics
ENGL 1180Z Healthcare Journalism
ENGL 1560A Jane Austen and George Eliot
ENGL 1760Y Toni Morrison
ENGL 1761U Bad, Mad, and Sad: Literatures of Misbehaving Femmes

Ethnic Studies
ETHN 1612E Black Archival Experiments

History
HIST 0559A Culture and U.S. Empire
HIST 1531 Political Party Politics in Modern America
HIST 1942B Sex and Society in Modern China
HIST 1963Q Sex, Power, and God: A Medieval Perspective

Humanities
HUMAN 1976D Advanced Topics in the History of American Feminisms

Italian
ITAL 1030B Modernity, Italian Style. Class, Gender, Race, Ideology in the Cinema of the Economic Miracle
ITAL 1262 Women, Gender, and Feminism in Early Modern Italy

Modern Culture and Media
MCM 15010 Television, Gender and Sexuality

Music
MUSC 1240S Feminist Sonic Futures
MUSC 1663 Women in Music

Religious Studies
RELS 0090A Women and Gender in Ancient Religions

Sociology
SOSC 0230 Sex, Gender, and Society

Science, Technology, and Society
STS 1700T Race, Gender, and Technology in Everyday Life

Theatre Arts and Performance Studies
TAPS 1281G Queer Dance

German Studies

German Studies

GRMN 0100. Beginning German.
A course to learn the German language and about the culture of German-speaking countries. For students interested in gaining a deeper understanding of German history, philosophy, literature, art, music and business through knowledge of the German language. Helps prepare for internships and study abroad, may introduce you to the language of your heritage or to a totally new language, positions you well for further language study, research or other opportunities. Students interested in this course who have not taken GRMN 0100 should contact the instructor.

Fall

GrMN 0100 S01 16827 T 12:00-12:50(07) (J. Fine)
GrMN 0100 S01 16828 T 12:00-12:50(07) (J. Fine)
GrMN 0100 S02 16828 T 12:00-12:50(07) (J. Fine)
GrMN 0100 S03 16829 MWF 9:00-9:50(05) (J. Fine)
GrMN 0100 S03 16829 T 12:00-12:50(07) (J. Fine)
GrMN 0100 S04 16830 T 12:00-12:50(07) (J. Fine)

GRMN 0110. intensive Beginning German.
An intensive, double-credit language course that meets three days a week and focuses on speaking, listening, reading and writing skills and the cultures of the German-speaking countries. At the end of the semester, students will be able to communicate successfully about everyday topics relating to the university, jobs, daily life and traveling. Ideal for undergraduate students interested in learning German for study abroad or for concentration requirements and for graduate students interested in starting their foreign language requirements. The course is designed for new students of German, regardless of any previous experience with German.

Spr

GrMN 0110 S01 25311 MWF 1:00-1:50(05) (J. Fine)
GrMN 0110 S01 25312 MWF 2:00-2:50(05) (J. Fine)

GRMN 0200. Beginning German.
A course to learn the German language and about the culture of German-speaking countries. For students interested in gaining a deeper understanding of German history, philosophy, literature, art, music and business through knowledge of the German language. Helps prepare for internships and study abroad, may introduce you to the language of your heritage or to a totally new language, positions you well for further language study, research or other opportunities. Students interested in this course who have not taken GRMN 0100 should contact the instructor.

Spr

GrMN 0200 S01 25311 MWF 9:00-9:50(02) (J. Fine)
GrMN 0200 S01 25312 T 12:00-12:50(02) (J. Fine)
GrMN 0200 S02 25315 MWF 12:00-12:50(01) (J. Fine)
GrMN 0200 S02 25315 T 12:00-12:50(01) (J. Fine)

GRMN 0300. Intermediate German I.
Focuses on deepening students’ understanding of modern German culture by reading texts and viewing films pertinent to Germany today. Intended to provide a thorough review of German grammar and help students develop their writing, reading, listening, and speaking skills. Recommended prerequisite: GRMN 0100.

Spr

GrMN 0300 S01 16830 MWF 10:00-10:50(03) (J. Fine)
GrMN 0300 S01 16830 Th 12:00-12:50(03) (J. Fine)
GrMN 0300 S02 16831 Th 12:00-12:50(03) (J. Fine)
GrMN 0300 S02 16831 MWF 1:00-1:50(03) (J. Fine)

GRMN 0400. Intermediate German II.
An intermediate German course that stresses improvement of the four language skills. Students read short stories and a novel; screen one film; maintain a blog in German. Topics include German art, history, and literature. Frequent writing assignments. Grammar review as needed. Four hours per week. Recommended prerequisite: GRMN 0300.

Spr

GrMN 0400 S01 25316 MWF 10:00-10:50(03) (J. Fine)
GrMN 0400 S01 25316 Th 12:00-12:50(03) (J. Fine)
GrMN 0400 S02 25317 Th 12:00-12:50(06) (J. Fine)
GrMN 0400 S02 25317 MWF 1:00-1:50(06) (J. Fine)

GRMN 0500F. Twentieth-Century German Culture.
A broad exploration of twentieth-century German culture using many kinds of written and visual texts (e.g. literature, journalism, film, art). While continuing to work on all four language skills (speaking, listening, reading, writing) students will gain more intensive knowledge about German culture, society, and history. In German. Recommended prerequisite: GRMN 0400.

Fall

GrMN 0500F S01 16832 MWF 11:00-11:50(04) (J. Fine)

GRMN 0600B. Was ist Deutsch?.
In this course we will examine some of the ideas and myths that became entangled with the emerging notion of a "German" identity in the eighteenth and nineteenth centuries. Some of the terms that we will discuss include ‘Kultur,’ ‘Bildung,’ ‘Freiheit’ and ‘Gesellschaft,’ all of which have rich semantic histories. Conducted in German. Recommended prerequisite: one course in the GRMN 0500 series.

Spr

GrMN 0600B S01 25318 TTh 10:30-11:50(09) (T. Kniessche)

GRMN 1320W. Reisen und Entdecken: Reiselliteratur vom 18. Jahrhundert bis zur Gegenwart.
Globalization is a phenomenon that changes basic structures of our lives. The political, social, economic, and cultural spheres are connected worldwide and influence each other like never before. One of the modes in which literature renegotiates space, time, and identities, are travel accounts, in which encounters with the other are shown to be cultural constructions that are always influenced by preconceived ideas and ideologies. Readings of texts by Johann Wolfgang Goethe, Johann Reinhold Forster, Alexander von Humboldt, Christian Kracht, Felicitas

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Hoppe, Raoul Schrott, Judith Schalansky, and others. Prerequisite: GRMN 600 or equivalent. In German.
Fall  GRMN1320/S01 16973  TTh 10:30-11:50(13)  (T. Kniesche)

GRMN 1320X. Weimar Culture: German Modernity and Its Discontents.
The years of the Weimar Republic were the hothouse of German cultural modernity. In a situation of crisis, the time between the end of World War I and the rise to power of National Socialism sees the emergence of new media as radio and film, an ever-accelerating urban life, changing social & gender roles, political radicalisms, as well as different artistic avantgarde movements. Weimar literature breaks from tradition, developing innovative forms to represent this new culture. At the same time, a flourishing journalistic landscape brings about new modes of cultural critique, essayistic theories of modernity, and figures such as the flaneur who reads the modern cityscape. Following a brief introduction to the historical background, we will read two novels of the period, two plays, & a series of selected poems, accompanied by journalistic pieces & representative examples of contemporary literary criticism.
Fall  GRMN1320/S01 18199  TTh 1:00-2:20(06)  "To Be Arranged"

GRMN 1440S. Grimms’ Fairy Tales.
"One doesn’t know the sorts of things one has in one's house," says the servant girl in Kafka's "A Country Doctor," as a stranger, who will soon act violently toward her, emerges on all fours from an unused sty. The precarious moment of finding more than one seeks in one's midst is among the key motifs of Grimms’ "Household Tales" that we will trace, following the way they move writers of literature, psychoanalysis, and critical theory. Reading the Grimms among others, we will find: what was "once upon a time" is not finished, nor can these uncanny tales be domesticated.
Fall  GRMN1440S/S01 16974  MWF 2:00-2:50(01)  (K. Mendicino)

GRMN 1441B. The Awful German Language.
German (not unlike others) is a foreign language. As such, it embodies oddities and barbarisms, provoking both interest and fascination, trembling and fear, from "native" speakers of other (foreign) languages. Yet, even for "native" speakers of German the language is not simply a given, but (at times) a threat (and under threat), an infinite (historical) task, a political-linguistic phantasm, a projection screen, a love affair, a traumatic experience. The seminar will explore complaints and concerns, from inside as well as from outside the German language, by Tacitus, Kleist, Mark Twain, Hölderlin, Hebel, Kafka, Benjamin, Kurt M. Stein, Adorno, Jandl, Pastor, Uljana Wolf. Taught in English (some knowledge of German is highly appreciated).
Fall  GRMN1441B/S01 18202  TTh 9:00-10:20(05)  (T. Schestag)

GRMN 1441M. Thieves in Literature.
The promise to give a word includes, and unavoidably so, the possibility not only to purloin its intended meaning but the word itself. Probably for this reason, Hermes, the messenger god in ancient Greece, not only gives his name for the art of appropriate interpretation, known as hermeneutics, but is also considered the god of thieves. The seminar will follow traces of this other hermeneutics in the Homeric Hymn to Hermes, in scenes around theft from St. Augustine’s Confessions (theft of ribbon); in Poe’s Purloined Letter; in a series of short prose pieces on thieves by Johann Peter Hebel; and in two poems: Schindlerhannes by Apollinaire, and Huhediblu by Celan. The seminar will open by looking at a painting by Bosch (The Conjuror), and end with watching De Sica’s film Ladri di Biciclette.
Spr  GRMN1441M/S01 25996  TTh 9:00-10:20(05)  (T. Schestag)

Independent study on a particular topic related to German culture. In German or English. At the discretion of the instructor. Please check Banner for the correct section number and CRN to use when registering for this course.
Fall  GRMN1970/S01 18204  M 3:00-5:30(03)  (G. Richter)

GRMN 2450. Exchange Scholar Program.
Fall  GRMN2450/S01 16120  Arranged  "To Be Arranged"
Fall  GRMN2450/S02 16121  Arranged  "To Be Arranged"
Spr  GRMN2450/S01 24872  Arranged  "To Be Arranged"

GRMN 2662N. Crises of Verse: George, Hofmannsthall, Rilke, Trakl.
"No word in the poem (I mean here every 'and' or 'the') is identical with the similarly-sounding word of common usage," writes Rainer Maria Rilke in a letter from 1922. Instead, the poetic “constellation” that it enters “changes it through to the kernel of its nature,” yielding a “transformation” that Rilke will call both “glorious” and “unheard-of.” With these words, Rilke does not merely set poetry apart; he also suggests that poetry deepens and responds to the Sprachkrise that would become acutely pronounced in Hofmannsthall’s “Letter to Lord Chandos,” a text which traces a suspension of the rhetoric of judgment concerning everything from affairs of state to everyday encounters. Through readings of Rilke and his contemporaries, we will probe the critical difference their poetry makes for the understanding of language and explore the “unheard-of” implications of their radically non-identical idioms.
Spr  GRMN2662N/S01 25969  W 3:00-5:30(10)  (K. Mendicino)

GRMN 2662O. Versions of Emptiness.
This collaborative humanities seminar will address the question of what we understand by “emptiness.” Conversely, we will ask what we mean by “fullness,” and how that is conceived of as the opposite of emptiness. Beginning with Lucretius’ notion of the void, ending with the free jazz of Ornette Coleman, the seminar will examine a series of philosophical and artistic versions of emptiness (and fullness) as they have played out from ancient/classical to modern/contemporary times. Further examples will include the poetry of Paul Celan, novels by Marguerite Duras, a miniature by Gentile Bellini, and the paintings of Mark Rothko. The constant backdrop to our discussions will be how the passivity or potentiality of blankness is, or is not, transformed into activity or actuality (as well as the ethical and political consequences of that transformation). Students can enroll under HMAN 2401W or GERM2662O
Spr  GRMN2662O/S01 25969  T 1:00-3:30  (T. Schestag)

GRMN 2662P. Postcatastrophic Narratives: Memory and Postmemory in German Literature after 1945.
German culture after 1945 is determined by a changing relation toward its past: the horrors of National Socialism. This past was repressed, then gradually recognized, until it emerged as an essential part of German identity & politics in the 1980s. Literature played a role as a counter-memory of what had been officially forgotten, adopting a radically modern aesthetics to engage with Adorno’s dictum that writing poetry after Auschwitz is barbaric. Literature attempts to represent the unrepresentable, developing a different poetics of memory and postmemory, in part with a political dimension that finds echoes in today’s postcolonial debates. After an introduction to the historical context & clarification of key concepts such as trauma, postmemory, & the politics of memory, we will discuss seminal texts by Paul Celan, W. G. Sebald, Alexander Kluge, Wolfgang Koeppen, Peter Weiss, Heiner Müller, Uwe Johnson & others.
Fall  GRMN2662P/S01 18375  T 4:00-6:30(07)  "To Be Arranged"

GRMN 2662Q. Literature and Philosophy: Case Studies of a Vexed Relationship.
Literature and philosophy, as formations of rhetoric and logic, have an ancient and enduring relationship that is vexed by the conceptual interpretability of literary language. Without conceptual interpretation, no literary text could ever be said to possess any meaning. But if the philosophical interpretation of a text were to succeed fully in its translation of aesthetic form into conceptual content, the act of philosophical interpretation would render the literary artwork superfluous, its supposed contents having been shown not to need its singular aesthetic form. This seminar will investigate how transformative practices of reading might engage with this irreducible tension by turning to a constellation of exemplary theoretical readings of literature: Heidegger on Hölderlin and Rilke; Benjamin on Brecht and Proust; Adorno on Goethe and Beckett; Blanchot on Kafka; Derrida on Shakespeare and Celan. Diverse graduate fields welcome. In English.
Fall  GRMN2662Q/S01 18204  M 3:00-5:30(03)  (G. Richter)
**GRMN 2970. Preliminary Examination Preparation.**
For graduate students who have met the residency requirement and are paying the Registration Fee to continue active enrollment while preparing for a preliminary examination.

Fall GRMN2970 S01 16122 Arranged "To Be Arranged"
Spr GRMN2970 S01 24873 Arranged "To Be Arranged"

**GRMN 2980. Reading and Research.**
Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

**GRMN 2990. Thesis Preparation.**
For graduate students who have met the residency requirement and are continuing research on a full time basis.

Fall GRMN2990 S01 16123 Arranged "To Be Arranged"
Spr GRMN2990 S01 24874 Arranged "To Be Arranged"

**GRMN XLIST. Courses of Interest to Students Concentrating in German Studies.**

**Hispanic Studies**

**HISP 0100. Basic Spanish.** This fast-paced beginning course provides a solid foundation in the development of communicative skills in Spanish (speaking, listening comprehension, reading and writing) as well as some insight on the cultures of the Spanish-speaking world. Individual work outside of class prepares students for in-class activities focused on authentic communication. Placement: students who have never taken Spanish before, or have scored below 390 in SAT II, or below 240 in the Brown Placement Exam. Students who have taken Spanish before and those with an AP score of 3 or below must take the Brown Placement Exam. Students should check Placement and Course Description in the Undergraduate Program section of the Hispanic Studies Website. Enrollment limited to 15; 12 spaces are available for students during pre-registration. 3 spaces will be available at the start of the semester for incoming or re-admitted students who should attend the first class. Pre-enrolled students must attend the first four days of class to maintain their pre-registered status and notify the instructor in advance if they must miss any day before the 4th class when the composition of the course section is finalized.

Fall HISP0100 S01 17861 MW 9:00-9:50(07) (S. Sobral)
Fall HISP0100 S01 17861 TTh 9:00-10:20(07) (S. Sobral)
Fall HISP0100 S02 17863 MW 10:00-10:50(07) (S. Sobral)
Fall HISP0100 S02 17863 TTh 10:30-11:50(07) (S. Sobral)
Fall HISP0100 S03 17864 MW 1:00-1:50(07) (S. Sobral)
Fall HISP0100 S03 17864 TTh 1:00-2:20(07) (S. Sobral)
Fall HISP0100 S04 17867 TTh 1:00-2:20(07) (S. Sobral)
Fall HISP0100 S04 17867 MW 2:00-2:50(07) (S. Sobral)

**HISP 0200. Basic Spanish.** A continuation of HISP 0100. This course continues to focus on acquisition of communicative skills (speaking, listening comprehension, reading and writing) as well as cultural awareness. With successful completion of the course students will be able to understand simple texts, carry on short spontaneous conversations involving everyday topics (such as modern day life and its pressures, health, art and culture, nature and the environment, relationships) and write simple texts with good command of grammar and sentence structure. Prerequisite: HISP 0100 or placement: SAT II scores between 400 and 450; Brown Placement Exam scores between 241 and 340. Students with an AP score of 3 or below must take the Brown Placement Exam. Students should check Placement and Course Description in the Undergraduate Program section of the Hispanic Studies Website. Enrollment limited to 15; 12 spaces are available for students during pre-registration. 3 spaces will be available at the start of the semester for incoming or re-admitted students who should attend the first class. Pre-enrolled students must attend the first four days of class to maintain their pre-registered status and notify the instructor in advance if they must miss any day before the 4th class when the composition of the course section is finalized.

Fall HISP0200 S01 18103 TTh 9:00-10:20(05) "To Be Arranged"
Fall HISP0200 S01 18103 MW 9:00-9:50(05) "To Be Arranged"

**HISP 0300. Intermediate Spanish I.** This course involves about 14-15 hours of work/week). It carries on the work initiated in HISP0110-100-200 to develop and strengthen students' linguistic, communicative, academic, and multicultural competencies. It continues to focus on the integration of grammar, vocabulary, and discourse work to advance competence and proficiency in Spanish and to support further development of communication in all the modalities. This course is framed by an inclusive perspective on learning and embraces diverse identities and communities in the Hispanic World. It fosters a community of learning among students and offers a variety of texts, themes, and topics related to students' academic and life experiences that also help them develop professional skills. Enrollment is limited to 12. Pre-enrolled students must attend the first four days of class to maintain their pre-registered status and notify the instructor in advance if they must miss any day before the 4th class when the composition of the course section is finalized.

Pre-requisite: students with an AP score of 3 or below must take the Brown Placement Exam.

Fall HISP0300 S01 17862 MW 9:00-9:50(03) (N. Schuhmacher)
Fall HISP0300 S01 17862 TTh 9:00-10:20(03) (N. Schuhmacher)
Fall HISP0300 S02 17868 MW 10:00-10:50(03) (N. Schuhmacher)
Fall HISP0300 S02 17868 TTh 10:30-11:50(03) (N. Schuhmacher)
Fall HISP0300 S03 17869 MW 12:00-12:50(03) (N. Schuhmacher)
Fall HISP0300 S03 17869 TTh 1:00-2:20(03) (N. Schuhmacher)
Fall HISP0300 S04 18104 MW 1:00-1:50(12) "To Be Arranged"
Fall HISP0300 S04 18104 TTh 2:30-3:50(12) "To Be Arranged"

**HISP 0400. Intermediate Spanish II.** A continuation of HISP 0300. This course continues to develop and strengthen students' linguistic, communicative, academic, and multicultural competencies. It focuses on content and language integration and creates opportunities to use the language in interdisciplinary scenarios related to diverse academic experiences. Enrollment is limited to 15. Pre-enrolled students must attend the first four days of class to maintain their pre-registered status and notify the instructor in advance if they must miss any day before the 4th class when the composition of the course section is finalized.

Pre-requisite: HISP 0300 or placement: SAT II scores between 520 and 590 or Brown Placement Exam scores between 411 and 490. Students with an AP score of 3 or below must take the Brown Placement Exam. Students should check Placement and Course Description in the Undergraduate Program section of the Hispanic Studies Website.

Fall HISP0400 S01 17870 MW 10:00-10:50(04) (E. Gomez Garcia)
Fall HISP0400 S01 17870 TTh 10:30-11:50(04) (E. Gomez Garcia)
Fall HISP0400 S02 17871 MW 2:00-2:50(04) "To Be Arranged"
Fall HISP0400 S02 17871 TTh 2:30-3:50(04) "To Be Arranged"

**HISP 0490A. Spanish for Health Care Workers.** This course is designed to provide students with the linguistic and cultural competencies necessary to communicate with and help treat Spanish speaking patients with limited English. The course includes a general review of pertinent grammar and vocabulary relating to the health care professions, assessment, and vocabulary useful for establishing patient rapport. Students will practice communicating in common medical situations, conducting patient interviews, and increase their understanding of possible responses from patients. We will broaden knowledge of different cultures, explore health care systems/ professions in a variety of settings, and have pertinent speakers invited to class. Please note this course does not qualify as a pre-requisite for study abroad or for HISP 0600. Students who complete 0490A successfully can continue in our program with HISP 0500 as the next level. This is an intermediate level language course so if you have taken a 600 course or above, you will be too advanced for this 400 level class.

Fall HISP0490A S01 17942 MWF 11:00-11:50(16) "To Be Arranged"

**HISP 0500. Advanced Spanish I.** Offers comprehension in listening, speaking, reading, and writing, with targeted grammar review. Students work with a variety of readings (literature, newspaper articles, etc.) and with art forms such as music and film, in order to develop oral and written expression and to explore issues relevant to the Hispanic world. Students explore topics of their own interest for up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
through student-led activities and presentations. Prerequisite: HISP0400 or placement: SAT II scores between 600 and 660, Brown Placement Exam scores between 491 and 570, or AP score of 4 in language or literature. Please check Hispanic Studies website (Undergraduate Programs) for course descriptions and placement information. Enrollment limited to 15; 12 spaces are available for students during pre-registration. 3 spaces will be available at the start of the semester for incoming or re-admitted students who should attend the first class. Pre-enrolled students must attend the first four days of class to maintain their pre-registered status and notify the instructor in advance if they must miss any day before the 4th class when the composition of the course section is finalized.

Fall HISP0500 S01 17872 MW 9:00-9:50(11) (S. Sobral)
Fall HISP0500 S01 17872 TTh 9:00-10:20(11) (S. Sobral)
Fall HISP0500 S02 17873 TTh 10:00-10:50(11) (S. Sobral)
Fall HISP0500 S02 17873 TTh 10:30-11:50(11) (S. Sobral)
Fall HISP0500 S03 17874 MW 1:00-1:50(11) (S. Sobral)
Fall HISP0500 S03 17874 TTh 1:00-2:20(11) (S. Sobral)
Fall HISP0500 S04 17875 MW 2:00-2:50(11) (S. Sobral)
Fall HISP0500 S04 17875 TTh 2:30-3:50(11) (S. Sobral)

HISP 0550. Intermediate Spanish for Heritage Speakers. Heritage speakers of Spanish are students who understand and speak Spanish to some degree but have not yet had formal education in Spanish. This course is specifically for students who already possess intermediate communicative skills and can communicate effectively in their home and community. This course is designed to validate, strengthen and expand the previous linguistic and cultural knowledge students bring to the classroom. Through a variety of authentic materials, students will explore issues of identity, linguistic rights, equality, and social justice, while developing their Spanish range to include formal registers, and honing their oral communication, listening, writing, and speaking skills. Prerequisite: HISP0500 or placement: SAT II scores between 670 and 740, Brown Placement Exam scores between 571 and 650, or AP score of 5 in language or literature. Please check Hispanic Studies website (Undergraduate Programs) for course descriptions and placement information. Enrollment limited to 12. Pre-enrolled students must attend the first four days of class to maintain their pre-registered status and notify the instructor in advance if they must miss any day before the 4th class when the composition of the course section is finalized. Students with scores of 750 and above on the SAT II, 551 on the Brown Placement Exam, or 5 in AP Literature should consider offerings in the HISP 0710E. Introduction to Professional Translation and Interpretation. This course explores cultural representations of local, regional, and national culinary traditions in the Spanish-speaking world. Drawing on music, film, television series, poetry, fiction, and visual art, we will explore how food and food culture reflects, creates, maps, and projects countries and regions from Spain to Latin America locally, nationally, and internationally. We will also examine connections between food and the environment and diet and class, as well as other aspects of identity manifested in eating habits. In addition to our weekly meetings, we will come together every 3-4 weeks to prepare a class meal based on regional cuisines. This course focuses on creating: from a class recipe book to creative and academic projects. The class will be taught in Spanish with elements of Portuguese, English, African, Indigenous, and other cultural traditions tied to the cuisines of the Spanish-speaking world. Prerequisite: HISP 1331S. Mapping Food and Eating Meaning in the Spanish-Speaking World. This course explores cultural representations of local, regional, and national culinary traditions in the Spanish-speaking world. Drawing on music, film, television series, poetry, fiction, and visual art, we will explore how food and food culture reflects, creates, maps, and projects countries and regions from Spain to Latin America locally, nationally, and internationally. We will also examine connections between food and the environment and diet and class, as well as other aspects of identity manifested in eating habits. In addition to our weekly meetings, we will come together every 3-4 weeks to prepare a class meal based on regional cuisines. This course focuses on creating: from a class recipe book to creative and academic projects. The class will be taught in Spanish with elements of Portuguese, English, African, Indigenous, and other cultural traditions tied to the cuisines of the Spanish-speaking world. This course explores multiple issues concerning crossing, living, and narrating the United States-Mexico border. We will focus on the border as a legal space bound to interpretations about what it means to migrate legally or illegally across that territory. We will explore the border as a vast and uneven expanse that entails diverse and often contradictory narratives and imaginaries that range from idealized landscapes to apocalyptic wastelands. Finally, we will discuss how border-crossing is a theme for artists and writers working on the solidarity networks from those who have dealt with the journey and its perils.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

HISP 2030B. History and Fiction: Literature of the 15th Century.
The goal of this course is to familiarize students with major literary works of the Fifteenth Century, and their socio-cultural background. Major works of three outstanding poets of this period (Juan de Mena, Íñigo López de Mendoza, and Jorge Manrique), satirical and historical writings, romances, (ballads sung with instrumental accompaniment), Alfonso Martínez de Toledo's Corbacho and Fernando de Rojas' Celestina will be presented in the context of the distinct cultural traditions that coexisted in Spain.

Fall: HISP 1371F S01 18687 MWF 11:00-11:50(16) 'To Be Arranged'

HISP 2351C. Popular literatures in Tropical Latin America.
This seminar will trace the emergence of the figure of the popular writer and of the people/pueblo as subject and protagonist of their writing from the 19th-century to the mid-20th century. From Alexandre Dumas influence's on republican writers of color in the Caribbean, continuing with the adaptation of Romantic and Modernista poetry to popular music all the way to the aesthetics and politics of mid-century banana novels. we will ask ourselves what makes popular literature and what are its connections to republicanism, fashion and democracy, as well as discuss the representations of the "tropics" or the very idea of a "tropical literature" or "tropical music".
Fall: HISP 2351C S01 18328 Th 3:00-5:30(12) 'To Be Arranged'

HISP 2450. Exchange Scholar Program.

HISP 2520Q. Critical Readings in Cuban, Puerto Rican and Dominican Literature.
This course traces the emergence and evolution of nationalist expression in literary and political texts from Cuba, Puerto Rico and the Dominican Republic. Beginning with early anti-colonial and nation-building writing, we focus particularly on the idea of the island in articulations of national culture. We address key figures in the intellectual history of the Caribbean; essays, novels and poetry from the nineteenth-century to the twenty-first; and recent critical and theoretical work on the Spanish Caribbean. Weekly topics include the intersection of race and nationalism; exile and migration; and transnational ties to the broader Caribbean, the U.S. and Latin America. This course is for graduate students only.
Fall: HISP 2520Q S01 17950 T 1:00-3:30(06) (E. Whitfield)

HISP 2970. Preliminary Examination Preparation.
For graduate students who have met the tuition requirement and are paying the registration fee to continue active enrollment while preparing for a preliminary examination.
Fall: HISP 2970 S01 16127 Arranged 'To Be Arranged'
Spr: HISP 2970 S01 24877 Arranged 'To Be Arranged'

HISP 2980. Research in Spanish and Latin American Literature.
Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

HISP 2990. Thesis Preparation.
For graduate students who have met the residency requirement and are continuing research on a full time basis.
Fall: HISP 2990 S01 16128 Arranged 'To Be Arranged'
Spr: HISP 2990 S01 24878 Arranged 'To Be Arranged'

HISP 2990A. Learning & Teaching Spanish as a Foreign Language.
This course provides practicing and prospective teachers of Spanish as a second language (L2) with an introduction to the field of second language acquisition (SLA) and its application to language teaching methodology and pedagogy, with a specific focus on the teaching of Spanish. In addition to the theoretical discussion, there is a significant practical component to the course so you can start (or continue) to develop skills and materials for your own work as an instructor at Brown University and beyond.
Fall: HISP 2990A S02 18158 M 10:00-12:30(16) (S. Sobral)

HISP 2991. Thesis Preparation.
Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

HISP XLIST. Courses of Interest to Concentrators in Hispanic Studies.

History

HIST 0150A. History of Capitalism.
Capitalism didn't just spring from the brain of Adam Smith. Its logic is not encoded on human DNA, and its practices are not the inevitable outcome of supply and demand. So how did capitalism become the dominant economic system of the modern world? History can provide an answer by exploring the interaction of culture and politics, technology and enterprise, and opportunity and exploitation from the era of the Atlantic Slave Trade to the 2008 Financial Crisis. HIST 0150 courses introduce students to methods of historical analysis, interpretation, and argument. This class presumes no economics background, nor previous history courses.
Fall: HIST 0150A S01 17036 MWF 1:00-1:50(08) (L. Reppel)

A long history lies behind the millions of men and women locked up today as prisoners, captives and hostages. Beginning in antiquity and ecology, to the present, this course draws on materials from a variety of cultures across the world to explore incarceration's centuries-old past.
In examining the experience and meaning of imprisonment, whether as judicial punishment, political repression, or the fallout of war, the class will ask fundamental questions about liberty as well. History 150 courses introduce students to methods of historical analysis, interpretation and argumentation. This course presumes no previous history courses.
Fall: HIST 0150C S01 17118 Th 1:00-2:20(05) (A. Remensnyder)

HIST 0150J. The Ocean in Global History.
This course examines how the ocean and its denizens have influenced and been shaped by diverse social, material, political, and cultural factors across different spaces and chronologies. We will consider how historical actors across global history have approached the ocean and its creatures as sources of sustenance and power, cosmology and knowledge, conveyance and death. We will weigh, too, how adopting an oceanic perspective can open new ways of understanding the past, present, and future of our planet and its inhabitants. Topics considered include contemporary and historic Indigenous seafaring traditions and maritime subjectivities across Moana/Pacific and other oceanic basins; Atlantic seaborne empires, piracy, human trafficking in the age of sail; the establishment of oceanography as a scholarly discipline; the evolution of maritime transportation infrastructure under global capitalism; the political ecology of a warming ocean in the era of climate crisis.
Fall: HIST 0150J S01 17030 Th 9:00-10:20(05) (G. Rocha)

What does it mean to collect? What drives human cultures to amass, hoard, steal, select, separate and display objects? This undergraduate lecture course – at the intersection of anthropology, geography, history, and museum studies – examines forms and practices of collecting from antiquity to the present. We will explore museums, archives, libraries, and other less formal institutions from around the globe, probing in the process the disciplinary boundaries by which scholars have sought to understand the implications of collections in different times and distant territories. We will unpack libraries, visit early modern cabinets of curiosities, and gain insights into Indigenous collections: from Polynesia to Mashantucket.
And we will address the fraught yet fascinating relationship between the collection, the catalogue, and the archive – and the gathering, registering, and organizing that constitute them.
Spr: HIST 0150K S01 25641 Th 9:00-10:20(08) (N. Safer)

During the 19th century, tens of millions of Europeans from every walk of life left their homes to move abroad—enough to alter humanity’s distribution across the globe. Their motives were many and their trajectories diverse. Why did the ‘great departure’ take place and what were its long-term consequences for Europe and the world? Serves as an introduction to one of the most significant demographic events in recent
world history, with a focus on European culture, politics, and society. Requires no prior knowledge of European and/or world history.

**HIST 0233. Colonial Latin America**

Colonial Latin America, from Columbus's voyage in 1492 to Independence in the nineteenth century, was the creation of three peoples: Europeans, Native Americans, and Africans. Spanish and Portuguese conquerors brought with them the world of the Crusades, the Inquisition, and the Renaissance. Native Americans lived there already, in rich empires and hunter-gatherer bands. Africans came as slaves from Senegal, Nigeria, Congo and Angola, bringing old traditions and creating new ones. These diverse peoples blended together to form a new people. This was a place of violence, slavery and oppression -- but also of art, faith, new societies, new ideas. P

Fall HIST0233 S01 17029 TTh 9:00-10:20(05) (J. Mumford)

**HIST 0246. The Ottoman Empire and the Modern Middle East**

The Middle East is the only terrestrial region to bridge three continents: it is also among the most contentious to discuss—or even define. This course has two parts: (1) Evolution of the Ottoman Empire (1299-1923); and (2) the dramatic remaking of Southern Europe, the Eastern Mediterranean, and North Africa into a new “Middle East/MENA” region from Ottoman collapse in WWI to present times. Throughout, we explore the pivotal role of Ottoman and Middle East history in not only geopolitics and economics, but art and architecture; fossil fuels and energy; religion and spirituality; literature, music, and sports; and humanism and environmentalism.

Spr HIST0246 S01 25592 MWF 12:00-12:50(01) (F. Ahmed)

**HIST 0252. The American Civil War in Global Perspective: History, Law, and Popular Culture**

This course uses the American Civil War of 1861-1865 to investigate certain issues relevant to current domestic and global affairs: the use of history in popular memory and popular culture (focusing on the Civil War in public art and film); the role of law in the prosecution and resolution of war; international law, especially as it applies to war and human rights. The course is aimed at students interested in history, law, and international relations. There are no prerequisites—the course is accessible to students at all levels—bui some knowledge of U.S. history might be useful.

Spr HIST0252 S01 25573 MWF 9:00-9:50(02) (M. Vorenberg)

**HIST 0253A. Colonial America: A Global History**

Colonial America was more than just the original 13 colonies that later became the United States. Those North American colonies were perched on the edge of a wide and vast world of trade, commerce, and migration that extended into the Caribbean, South America, Africa, and into the Pacific and Indian Oceans. Native Americans, Africans, Spanish, Dutch, French, Portuguese, and Asians were all an important part of this world. Join us on an exploration using primary and secondary sources, videos, and objects that reveal the globalized world of early America. Course is open to all students; there are no prerequisites.

Fall HIST0253A S01 18201 MWF 12:00-12:50(15) (L. Fisher)

**HIST 0255A. Mexican American History**

This course provides a comprehensive historical examination of ethnic Mexicans in the United States. Students first address Native American societies prior to European colonization in order to understand the historical antecedents of Mexican people in the US. Proceeding chronologically, students then examine how the Spanish colonial era, Mexican Independence, and other major events during the nineteenth century shaped the “Mexican American” experience. We also explore the history of Mexican community in the U.S. during the American conquest of the Southwest, the twentieth century immigration experience, and the development of diverse Mexican American communities after 1900. By utilizing primary and secondary sources, we will explore major questions, theory, and research methods pertinent to Mexican American & Chicano/a/x history, including, immigration, xenophobia, ethnic identity formation, gender, articulations of race and labor in urban and rural settings, political activism, and urban cultures.

Spr HIST0255A S01 25633 TTh 10:30-11:50(09) (M. Oceguera)

**HIST 0720A. From Fire Welders to Empire Builders: Human Impact on the Global Environment before 1492**

Environmental problems are often considered a modern issue, but people have been transforming their surroundings for millennia. This course is an introduction to the study of premodern environmental history that includes case studies from around the globe. We will begin with foraging people turning landscapes and then study how farmers came to build their own agricultural ecosystems. We will study how the expansion of commerce and the growth of political organizations vastly increased the ability of our species to transform environments. Since this is a heavily interdisciplinary field that depends on a wide variety of sources, the course will include primary source readings from scientific and archaeological articles and premodern texts.

Fall HIST0720A S01 17033 MWF 11:00-11:50(16) (B. Lander)

**HIST 0286B. History of Medicine II: The Development of Scientific Medicine in Europe and the World**

From the 18th century onward, Western medicine has claimed universal validity due to its scientific foundations, relegating other kinds of medicine to the status of “alternative” practices. The course therefore examines the development of scientific medicine in Europe and elsewhere up to the late 20th century, and its relationships with other medical ideas, practices, and traditions. Students with a knowledge of languages and the social and natural sciences are welcome but no prerequisites are required.

Spr HIST0286B S01 25659 MWF 9:00-9:50(02) (H. Cook)

**HIST 0510B. History of Tokyo**

This first-year seminar explores Tokyo’s history from its early-modern origins as Edo, the seat of the Tokugawa shogunate, to its 21st century circumstances as the planet’s largest metropolis and a nodal point for convergences of capital, culture, and precarity. We will study the transformation of the built environment alongside accounts of daily life, debates over the value of the city’s past and speculation about Tokyo’s possible futures, among other topics. Participants in the seminar will work with primary sources (in translation) in a range of mediums - text, films, maps, photographs - as well as scholarly analyses from multiple disciplinary perspectives.

Fall HIST0510B S01 17803 W 3:00-5:30(10) (K. Smith)

**HIST 05220. What is Enlightenment?**

What is the Enlightenment? And why does it matter today? This First-Year Seminar introduces students to a crucial historical epoch that interpreted the past – with searing critiques of certain European philosophical and religious traditions – and became a flashpoint for the future, causing debates and controversies well into the 20th century – and beyond. Drawing on a range of approaches and disciplines, we will examine the social and cultural foundations of Enlightenment thought in Europe and throughout the non-European world, including segments on the origins of anthropology, Orientalism, critiques of imperialism and slavery, environmentalism and the rise of print, as well as science, music, art, literature, and philosophy.

Spr HIST05220 S01 25693 F 3:00-5:30(15) (N. Safer)

**HIST 0552A. A Textile History of Atlantic Slavery**

This class explores the experiences, politics, and cultures of enslaved African and African-descended people through clothing and fashion. As a historical source, textiles reveal things that might otherwise remain obscure in the documentary record. Students will engage material culture methodologies to consider the multiple stories that might be told through a particular fabric or garment. The course will explore recent scholarship about slavery in the Caribbean, South America, and particularly the United States to recognize the role of clothing and textiles in enslaved people’s concurrent struggles for self-liberation and self-fashioning in the face of
HIST 0558C. Latinx Social Movement History. This course examines the history of Latinx social movements and politics during the 20th century into the present moment. Students will learn how various Latinx groups have organized around issues of race, ethnicity, labor, class, immigration, sports, gender, sexuality, citizenship, reproductive rights, and education. We will explore how these groups have utilized social and political organizing to make demands for social justice and equality. By utilizing primary and secondary sources, students will explore major questions, theory, and research methods pertinent to the historical narratives of Latinx people. Students will closely examine the legacy of these social movements and their implications for present-day politics and organizing.

Fall HIST0558C S01 17049 M 3:00-5:30(03) (M. Ocegueda)

HIST 0559A. Culture and U.S. Empire. How have U.S. policymakers obtained public consent for their foreign policies? What sorts of ideas expressed in U.S. popular culture and public discourse have helped convince enough Americans that their nation's foreign policies were wise and just? How have ideas expressed in American culture supported and legitimated U.S. empire from within? In this seminar, we will examine the relationship of American culture to the U.S. imperial project by looking at how cultural narratives about race, gender, sexuality, class mobility, and American exceptionalism have not only shaped Americans' interactions with other peoples, but have also rationalized the spread of U.S. power.

Fall HIST0559A S01 17063 S01 3:00-5:30(07) 'To Be Arranged'

HIST 0577B. The US-Mexico Border and Borderlands: A Bilingual English-Spanish Seminar. In this First Year seminar, we will examine the historical formation, contemporary reality and popular representation of the U.S.-Mexico border from bilingual (English-Spanish), multicultural (U.S., Mexican, Mexican-American, indigenous and Asian immigrant), and transnational perspectives within the framework of globalization, and pay particular attention to the movement of peoples—workers, families, women and children—in both directions.

Fall HIST0577B S01 17056 W F 3:00-5:30(10) (E. Hu-Dehart)

HIST 0580M. The Age of Revolutions, 1760-1824. In the middle of the eighteenth century, the Americas belonged to a handful of European monarchies; within a few decades, most of the Americas was composed of independent republics, some of the European monarchies were either deposed or quaking on their thrones. Usually considered separately, revolutions in British North America, France, Saint-Domingue (Haiti) and Spanish America had diverse local circumstances yet composed a single cycle of intellectual ferment, imperial reform, accelerating violence and, forging of new political communities. We will examine revolutions that helped create the world we live in. Enrollment limited to 19 first year students. P

Fall HIST0580M S01 17063 S01 3:00-5:30(11) (J. Mumford)

HIST 0623C. Americans in the USSR. This Sophomore Seminar will investigate the countless American journalists, diplomats, students, tourists, athletes, musicians, etc. who traveled to the Soviet Union. We will pay close attention to their preconceptions, motivations, experiences, and reflections after the fact. Some went for work, others to explore an alternative to capitalism or to build socialism, and still others traveled to explore a society that claimed to have overcome discrimination based on race and gender. At the end of the semester, students will work on final projects in which they delve more deeply into a specific aspect of the topic.

Fall HIST0623C S01 17636 F 3:00-5:30(11) (E. Pollock)

HIST 0654A. Welfare States and a History of Modern Life. History of the American welfare state, from its origins in nineteenth-century industrial capitalism to contemporary debates about health care, in comparative perspective. Why did welfare states appear and what form did the U.S. version take? Considerations of social inequality, labor relations, race, gender, family policy, the social wage, and the relationship between markets and the state are all considered. Some comparison with European models.

Spr HIST0654A S01 25659 W TTh 3:00-5:30(10) (R. Self)

HIST 0682E. Lobsters, Thylacines, and Bacteria: An Introduction to Animal Histories. Amid a period of existential human angst about the future of our planet and the other creatures on it, the discipline of history is experiencing an "animal turn". This developing interdisciplinary approach draws on numerous fields, from anthropology to veterinary science, to better understand the lived experiences of non-human animals in the near and distant past. Animals have not only played important roles in human history, as abstract symbols, exploited resources, or close partners, but they also have their own histories. Can we get at animal histories independent of human interference? In this discussion-based seminar we will explore a variety of research modes in the emerging field of animal histories and tackle the challenge of de-centering humanity in the study of the past.

Fall HIST0682E S01 18224 T Th 4:00-6:30(07) 'To Be Arranged'

HIST 1031. Southern Africa before Segregation: A History From the Earliest Times to 1885. The "precolonial," pre-capitalist period in southern Africa was eventful and complex. Beginning with the first identifiable humans and concluding at the cusp of the modern, capitalist, imperialist, and segregationist era, we engage in wide-ranging discussions on topics of contemporary interest: • the historical character of ethnicity, • the tension between hospitality and hierarchy in indigenous societies, • the processes of racial formation under assimilationist imperial policies, • the intensification of racial exclusion with mineral discoveries and capitalism, • the current politics of indigeneity around on those colonized in this early period, • the challenges this subject matter poses for the subject of history. (P)

Spr HIST1031 S01 25929 Th 2:30-3:50(11) (N. Jacobs)

HIST 1080. Humanitarianism and Conflict in Africa. This course focuses on the major issues and debates concerning humanitarianism and international intervention in 20th century Africa. It will explore the history of humanitarianism and the many challenges that arise when governments and institutions intervene in a conflict. Then students will investigate specific sites of conflict in Africa (ranging from Nigeria, Somalia, Rwanda, Sudan, and Western Sahara) and analyze different models of intervention and aid. These case studies will expose students to pivotal events in African history and equip them with a critical vocabulary with which to assess contemporary conflicts.

Spr HIST1080 S01 25638 Thh 1:00-2:20(08) (J. Johnson)

HIST 1112. China's Early Modern Empires. "China’s Early Modern Empires" traces the development of empire in the China region from the rise of the Mongols in the twelfth century to the eve of China’s encounter with the West in the nineteenth century. The course focuses on the early modern empires of the Chinese Ming (1368-1644) and Manchu Qing (1644-1911), situating them in larger patterns of world history. We look at how conquest and the demands of empire-building shaped frontier relations and East Asian regional geopolitics, as well as social relations (ethnic and gender identities in particular), economic organization, government, and culture within the core Chinese portions of the empires. Emphasizing the dynamic character of the region’s history prior to the rise of modern Western imperialism, the course provides a solid foundation for the study of modern and contemporary China.

Fall HIST1112 S01 17040 Th 10:30-11:50(13) (C. Brokaw)

HIST 1121. The Modern Chinese Nation: An Idea and Its Limits. How did the Chinese empire become a nation-state? This course examines the history of Chinese societies from 1850, when a massive civil war destabilized the country and sent a new wave of migrants across the globe. We will explore how local and regional society was affected by the spread of new conceptions of the Chinese nation, new kinds of government, and cultural and technological innovations. Coursework addresses the construction of race, ethnicity, and religion as well as gender and sexuality; the effects of war and catastrophe; different formulations of revolution and self-strengthening; and more. This course is fully online.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
HIST 1141. Japan in the Age of the Samurai.
This course is for students interested in exploring Japan’s remarkable cultural, political and social transformations during the Age of the Samurai, which began in the late 12th century and came to a close in the mid-19th century. Lectures, readings and films will explore how the emergence of new forms of military expertise and technologies led to the creation of warrior-led “tent governments,” that first co-existed with and eventually supplanted the structures of power centered on Kyoto and the Imperial Court. Open to all students. P
Spr HIST1141 S01 25583 MWF 11:00-11:50(04) (K. Smith)

HIST 1200C. History of Greece: From Alexander the Great to the Roman Conquest.
In 334 B.C.E., the 22-year-old Alexander crossed over to Asia and North Africa, changing the history of the West forever. The invasion by a small, if intensely introspective, Greek peoples led to the spread of a monotheistic idea, belief in individualism, alienation from central power, and, conversely, the creation of natural law and human rights, and a deep desire for universalism. By its silences, the preserved narrative (constructed by European males) minimizes the lives of women, children, slaves, and those not of European origin. But largely because of Alexander’s conquests and the expansion of cosmopolitan thinking, the evidence embedded in Hellenistic history is far more diverse than for most other periods of classical history. This course focuses on inclusive social and intellectual history. Of particular emphasis will be the tension between the individual and the search for universal connection. P
Fall HIST1200C S01 17041 TTh 9:00-10:20(08) (K. Sacks)

HIST 1211. Crusaders and Cathedrals, Deviants and Dominance: Europe in the High Middle Ages.
Violent evocations of the high medieval European past, with its crusaders and cathedrals standing in for Christian whiteness, have recently acquired political force in the US and Europe. This course explores how Europe in its medieval phase of expansion was in reality home to people of a diverse array of religious, ethnic, and other identities and was connected in formative ways to other regions of the world such as Africa and Asia (west and east). Special attention will be paid to the foundations of European colonialism, categories of deviance and the other, relations between Christians and non-Christians, gender and sexuality, ideas of the self, and the structures of power. P
Spr HIST1211 S01 25624 TTh 9:00-10:20(05) (A. Remensnyder)

HIST 1262M. Truth on Trial: Justice in Italy, 1400-1800.
Why do we think that one human being can judge another? How did this activity, enshrined in legal and political systems, profoundly shape society? This course examines the changing face of justice, from the medieval ordeal to judicial torture; the expansion of inquisitorial and state law courts; and the critical role the judicial system played in shaping Italian society. Using Italy as a focus, the course explores how laws courts defined social, political, scientific, and religious truth in the early modern period. P
Spr HIST1262M S01 25643 TTh 2:30-3:50(11) (C. Castiglione)

HIST 1266D. British History, 1660-1800.
A survey of British history from the restoration of monarchy to the Wilkes affair and the loss of the American colonies. In addition to political developments such as the Glorious Revolution and the rise of party, examines political ideology (including the great political theorist, John Locke) and various themes in social history (such as crime, popular protest, the sexual revolution, and the experiences of women). P
Spr HIST1266D S01 25596 MWF 2:00-2:50(07) (T. Harris)

HIST 1267. The Global British Empire, 1600-The Present.
This course charts the long history and continuing legacies of the British Empire, an entity that has transformed every single continent over the last four centuries and is widely associated with the makings of the modern world. We examine how and why a powerful and expansive British Empire emerged and sustained itself. Equally, we zoom in on the regular contestation and even outright rebellion that this transcontinental polity inspired. This course is an opportunity to think connectively and comparatively about historical experiences in America, India, the Caribbean, and Africa among multiple other British imperial spaces. We will track the making and unmaking of the British Empire by studying the evolution of global trade, labor regimes including slavery, the consumption of commodities such as sugar, as well as new ideas about governance, race, and identity. P
Spr HIST1267 S01 26501 MWF 10:00-10:50(03) "To Be Arranged"

HIST 1333. The Mexican Revolution.
To study the Mexican Revolution is to examine the sweeping history of Modern Mexico: from the Liberal reforms of Benito Juárez to the enduring power of the Partido Revolucionario Institucional (PRI); from peasant revolutionary Emiliano Zapata to his namesake Zapatistas of Chiapas; from Pancho Villa’s mass revolutionary army to transnational mystic Teresita Urrea; from the landlord Francisco Madero who led the insurgency to Lázaro Cárdenas who enacted land and labor reforms; from the constant flows of migrants crossing the border back and forth to Mexico’s defiance against Trump’s wall.
Spr HIST1333 S01 25617 MW 8:30-9:50(02) (E. Hu-Dehart)

HIST 1360. Amazonia from the Prehuman to the Present.
This course merging lecture and discussions will examine the fascinating and contested history of one of the world’s most complex fluvial ecosystems: Amazonia, in equatorial South America, from its pre-human history to the present day. The course will include readings and discussions on the region’s ecological origins; the social history of its diverse Indigenous and immigrant populations, including African-descended peoples; exploration myths and European colonial projects; and more recent efforts to exploit and protect Amazonia’s extraordinary natural and human resources. The course will use tools and resources from archaeology, anthropology, biology, and social and cultural history, and will also examine popular representations of the Amazon through novels, newspapers, podcasts, and film.
Fall HIST1360 S01 17586 MWF 2:00-2:50(01) (N. Safer)

HIST 1457. History of the Palestinians.
Ordinary Palestinians are largely absent in histories of Palestine/Israel. This course introduces new scholarship that draws on local archives, oral history, and ethnographic research to decolonize knowledge production about a people who are a household name, but about whom we know little. Engaging the larger themes of capitalist transformation, settler-colonialism, and indigenous from a bottom-up perspective, this course asks: Who are the Palestinians? What can their history teach us about the making of the modern world? And why has their condition become a global signifier for justice and equality? P
Spr HIST1457 S01 25632 TTh 10:30-11:50(09) (B. Doumani)

HIST 1501. The American Revolution.
This course will explore the period of the American Revolution from the 1760s through the turn of the nineteenth century. Taking a broad view of the conflict and its consequences, we will situate the American colonies in their North American and Atlantic context, examine the material and ideological concerns that prompted the Revolutionary War, and trace the consequences of the conflict for the nation that followed. Students will be invited to look beyond the Founders to the experiences of women, slaves, Native Americans, common soldiers, and Loyalists. P
Spr HIST1501 S01 25579 MWF 10:00-10:50(03) (S. Rockman)

This course explores the history of North America through the eyes of the original inhabitants from pre-contact times up through 1800. Far from a simplistic story of European conquest, the histories of Euroamericans and Natives were and continue to be intertwined in surprising ways. Although disease, conquest, and death are all part of this history, this course also tell another story: the big and small ways in which these First Nations shaped their own destiny, controlled resources, utilized local court systems, and drew on millennia-old rituals and practices to sustain their communities despite the crushing weight of colonialism. P
Spr HIST1512 S01 25585 MWF 12:00-12:50(01) (L. Fisher)

HIST 1531. Movement Politics in Modern America.
This course explores the history of political movements in the United States from Reconstruction through Trumpism—politics from the bottom up, a history of “popular politics.” The course begins with emancipation and the rise of industrial capitalism in the late nineteenth century and the civil rights, populist, and reform politics that emerged in response.
The course concludes the New Right and transformations in political culture from Reaganism to Trumpism. In between, we consider civil rights, progressivism, feminism(s), the New Deal coalition, anti-communism, Black freedom, the New Left, second wave feminism, and gay rights. Major themes include: conservatism and liberalism across the twentieth century; race, class, and gender in shaping the nation’s politics; the relationship between social movements and political power; the democratic promise and the limitations of political movements and of the U.S. political system more broadly.

Fall HIST1531 S01 17043 TTh 2:30-3:50(12) (R. Self)

HIST 1554. American Empire Since 1890.
This survey of twentieth-century US history through the lens of racial capitalism and empire will focus on the United States as a settler state whose power also relies on overseas colonialism and free trade imperialism. Topics include: ideology and political culture, labor and extraction, social movements and resistance, knowledge production and the military-industrial-complex, neoliberal scarcity and financialization.

Fall HIST1554 S01 17042 TTh 2:00-2:50(07) (N. Shibusawa)

Where does power come from? This course uses the history of energy—the intertwined pasts of people and sources of fuel from wood, muscles, and corn to coal, oil, and nuclear reactions—to examine how power in political terms and power as a synonym for energy are related. Serving as an introductory environmental history of North America, the class also touches on other geographies. Lectures start before agriculture but focus on how human energy use has transformed environments and societies in the past 200 years. Key themes covered in the assigned readings, films and podcasts include: settler colonialism, capitalism, slavery, extractivism, climate change, biodiversity loss, environmental justice, and activism.

Assignments include options for creative projects as well as formal research papers. No prerequisites.

Fall HIST1573 S01 17044 TTh 2:30-3:50(12) (B. Demuth)

HIST 1620. Resisting Empire: Gandhi and the Making of Modern South Asia.
Gandhi’s India tracks the emergence and transformations of British colonial rule in the Indian subcontinent, the insurgencies and the cultural and economic critiques that shaped anti-colonial nationalism, the conflicts that fueled religious differences and the ideas that shaped non-violent civil disobedience as a unique form of resistance. With readings from Gandhi, Marx and Tagore, amongst others, this course interrogates relationships between power and knowledge, histories from below, as well as violence and political mobilizations that would, by the mid-twentieth century, bring down an empire and create a bloody and enduring divide with the birth of two nation-states.

Fall HIST1620 S01 17046 TTh 10:30-11:50(13) (V. Zamindar)

This course examines the creation and circulation of scientific knowledge in Renaissance Europe, ca. 1450-1600. We will explore the practices, materials, and ideas not just of astronomers and natural philosophers, but also of healers, botanists, astrologers, alchemists, and artisans. How did social, political, economic, and artistic developments during this period reshape how naturalists proposed to learn about, collect, manipulate, and commercialize nature? We will also consider the ways in which colonial projects forced Europeans to engage with other "ways of knowing" and rethink classical knowledge systems.

Fall HIST1825F S01 17032 MWF 10:00-10:50(14) (T. Nummedal)

HIST 1830M. From Medieval Bedlam to Prozac Nation: Intimate Histories of Psychiatry and Self.
Humankind has long sought out keepers of its secrets and interpreters of its dreams: seers, priests, and, finally, psychiatrists. This lecture course will introduce students to the history of psychiatry in Europe, the United States, and beyond, from its pre-modern antecedents through the present day. Our focus will be on the long age of asylum psychiatry, but we will also consider the medical and social histories that intersect with, but are not contained by, asylum psychiatry: the rise of modern diagnostic systems, psychoanalysis, sexuality and stigma, race, eugenics, and pharmaceutical presents and futures.

Spring HIST1830M S01 25631 TTh 10:30-11:50(09) (J. Lambe)

HIST 1931L. Women, Gender and Feminism in Early Modern Europe (ITAL 1262).
Interested students must register for ITAL 1262.

HIST 1942B. Sex and Society in Modern China.
This course traces changing gender relations across China’s “long 20th century.” We begin by examining lives and relationships of men and women in the late 19th century, before the fall of the Qing dynasty. We then investigate the ways that external and indigenous forces have changed (or not) gender relationships during the rapid and often violent transitions of the twentieth century, from the Republican period (1911-1949) to the People’s Republic; from the Nanjing Decade (1927-37) to the Maoist period (1950-1976) and the period of economic reform (1976-present day). Why did Chinese politicians see the reform of family and gender relations as central to their larger political goals? What were the “new” gender relations supposed to be? How was gender reform carried out (or not) and what were its effects, intended and unintended?

Fall HIST1942B S01 17050 M 3:00-5:30(03) (B. Bossier)

HIST 1952C. Latino Urban History.
This course closely examines the historical development of urban regions in the United States as related to the experiences of Latino communities. By reading and critically discussing classic and contemporary works in the field along with an examination of primary sources, students will learn how urban renewal, displacement, gentrification, and suburbanization impacted Latino communities. Emphasis will also be placed on the social movements that emerged within urban regions that demonstrate the ways that Latinos interacted with and shaped American cities.

Major themes in the course involve immigration, gentrification, race, ethnicity, urban inequality, place-making, community formation, and economic development.

Spring HIST1952C S01 25657 M 3:00-5:30(13) (M. Oceguera)

This course examines the city as not just a place of emancipation, but also a site of segregation, inequality, and resistance. Drawing on historical and sociological perspectives on the city, the course focuses primarily on post-colonial cities and uses a range of methodological approaches to examine historical patterns of city formation and how these have shaped segregation, inequality, and contestation. The course will combine academic writings with primary documents, datasets, policy reports, and literary works, and emphasize collaborative research projects centered on mapping of in-depth case studies.

Spring HIST1954H S01 25948 M 3:00-5:30(13) (V. Zamindar)

HIST 1954K. Anti-colonial temporalities, geographies and artisanal formations.
This advanced seminar will draw out anticolonial experiments and thought beyond/outside of movements striving for national independence, in order to consider anticolonialism as an ongoing practice that we need to continuously engage, invent and mobilize to challenge the separations (between past and present, between nationalities, between religions, between art and craft, for instance) that organize our world.

Fall HIST1954K S01 17061 Th 4:00-6:30(04) (V. Zamindar)

Philosopher George Santayana famously warned that “Those who cannot remember the past are condemned to repeat it.” Ten years later, industrialist Henry Ford perhaps even more famously dismissed his notion: “History is more or less bunk.” What we mean by history and how we construct and use it are essential questions in all societies. Thinking Historically explores how we view and employ the past. The course examines major ways of interpreting the past through a survey of historians and methods and studies how history is produced, used, and misused, by professionals as well as by the public.

Fall HIST1956A S01 17126 Th 4:00-6:30(04) (K. Sacks)

HIST 1961D. Heaven Above, Suzhou and Hangzhou Below: Urban Culture in Early Modern China.
The commercial boom of sixteenth and seventeenth century China stimulated the growth of a lively popular culture in the great cities of the southeast—Nanjing, Suzhou, and Hangzhou. These cities became
magnets for ambitious scholars, pleasure-loving merchants, courtesans, artists, and writers and sites for the production of some of the great masterpieces of Chinese vernacular fiction, drama, book art, and painting. After some background reading in socioeconomic history, the course focuses on analysis of the literature and art of the period and what it reveals about the short-lived “floating world” of late imperial China. P

HIST 1963Q. Sex, Power, and God: A Medieval Perspective. Cross-dressing knights, virgin saints, homophopic priests, and mystics who speak in the language of erotic desire are but some of the medieval people considered in this seminar. This course examines how conceptions of sin, sanctity, and sexuality in the High Middle Ages intersected with structures of power in this period. While the seminar primarily focuses on Christian culture, it also considers Muslim and Jewish experience. Enrollment limited to 20. P

HIST 1964D. Women in Early Modern England. Selected topics in the social history of early modern England (c.1500-1800), with particular emphasis on the experiences of women. Themes to be addressed will include the family, working life, education, crime, politics, religion, and the early feminists. Not open to freshmen sophomores. P

HIST 1964F. Early Modern Ireland. This seminar will cover various themes in the political, religious, social and cultural history of Ireland between c. 1500 and the later eighteenth century. Topics to be discussed will include the Reformation, the Irish Rebellion, Cromwell’s rule, the War of the Two Kings, popular protest, the beginnings of the Irish nationalism, and the experiences of women. P

HIST 1964K. Descartes’ World. An exploration of history and historical fiction through the examination of the early life of René Descartes. One of the most famous philosophers of the 17th century, he was French but wrote his works while living in exile in the Dutch Republic. While his ideas are much debated, little is known about his personal life, especially before he settled in the Republic in 1628, despite many hints about his years as a soldier, his extensive travels in Europe, and his possible political and occult associations. This seminar is designed as a collective exploration into the small pieces of evidence about his early life and the lives of his friends and enemies in order to put mind and body back together rather than to treat them separately. P

HIST 1967L. Politics and Culture Under The Brazilian Military Dictatorship, 1964-1985. This course will focus on the political, social, economic, and cultural changes that took place in Brazil during the military dictatorship that ruled the country from 1964-85. We will examine why the generals took power, the role of the U.S. government in backing the new regime, cultural transformations during this period, and the process that led to democratization. P

HIST 1968. “Neither of the East nor the West”: Readings in Ottoman History. The Ottoman Empire (1299—1923) was the longest lived and most powerful Islamicate dynasty in history. From Turkic nomads in Asia to multithnic empire straddling three continents, the Ottomans were the premier early-modern Mediterranean power and last to single-handedly govern most of today’s Mideast/MENA. Yet, Ottoman formation and evolution—fusing Persianate, Mongol, and Roman heritages, as well as Muslim, Christian, and Jewish communities—remain little understood. Vis-a-vis cutting-edge scholarly monographs, this advanced seminar explores Ottoman history from medieval beginnings to modern legacies, including those surviving the empire’s partition after WWI. Prerequisites: at least one course in Middle East, African, or Southern European/Balkan history. P

HIST 1968A. Approaches to the Middle East. When and why did the Middle East emerge as a field of study? What are the competing approaches to framing our understanding of this pivotal region? How did these approaches change over time? This upper-level seminar explores these questions within the larger context of colonial, national, and other ongoing encounters that have shaped modern regimes of knowledge production. The class features visits by leading scholars from different disciplines who reflect on the questions they ask and how they go about answering them. Readings range from canonical works to innovative new scholarship. No pre-requisites but previous coursework on this region recommended.

HIST 1969A. Israel-Palestine: Lands and Peoples I. The Holocaust largely destroyed the centuries-long Jewish civilization in Europe. For Zionism, originating in late nineteenth-century antisemitism and East-Central European ethno-territorial nationalism, the “final solution” proved the need for a Jewish-majority state in Palestine. Yet the majority of the population in Eretz Israel was Palestinian. The creation of Israel in 1948 was the outcome of a bitter war with the local Arab population and the surrounding states, in the course of which most of the Palestinians were expelled or fled, facilitating the establishment of a Jewish-majority state. The seminar will discuss the fraught question of the two traumatic events of the Holocaust and the Nakba (the expulsion of 1948), and propose that we can both better understand these events, and begin the long path to reconciliation, by applying the tools of empathetic first-person history.

HIST 1972A. American Legal History, 1760-1920. Upper-level undergraduate seminar examining the history of issues that have been contested in recent U.S. legal decisions and practices. The main period covered is 1780-1920, but we will also consider the use and misuse of the history of this period in legal decisions and debates of the past two decades. Among the topics covered are Native American sovereignty; firearms use and regulation; slavery, servitude, and emancipation; women’s rights and reproductive freedom; and the meaning of citizenship. Enrollment limited. To be considered for admission, students must contact the instructor before the beginning of the semester. Instructor permission required.

HIST 1972J. Racial Capitalism and U.S. Liberal Empire. This seminar will reflect on terms that seem to trip us up: empire, capitalism, modernity. Many Americans reject the notion that the United States is an empire due to a sense of patriotism and/or an inability to distinguish colonialism from imperialism, let alone recognize settler colonialism. In this course, however, we will examine how U.S. empire and racial capitalism are inseparable and consider how liberal blinders have operated in American popular and academic discourse—and that perhaps “provincializing the United States” might offer some clarity.

HIST 1974D. River Histories: Fishes, Floods and the Transformation of Freshwater Ecosystems. As food sources and transportation routes, rivers have long played important roles in human societies, and people have in turn transformed them. While many histories explore the lives of people living along rivers, this course will move from the terrestrial realm into the aquatic realm to consider how fluvial ecosystems work, from the smallest microorganisms to large creatures like salmon and alligators. This will allow us to think about how rivers have changed over time as people blocked them with dams, built levees to stop them from flooding, or straightened them into shipping canals. The best documented members of fluvial ecosystems have usually been fish, so we will pay particular attention to histories of fishing. We will also discuss transportation, water power, flood mitigation, and fights between farmers, fishers, and industrialists over how rivers have been exploited.

HIST 1974E. The Intellectual History of Imperialism. What is an empire? What does an empire do? What is the difference between imperialism and colonialism? How have historical actors as well as historians between the seventeenth and twentieth centuries answered these questions? This seminar considers the long history of intellectual debate over imperialism and its relationship with state formation, capitalism, labor, subjecthood, and the environment. We will
read proponents of imperial expansion, advocates of imperial reform, and fierce critics of imperialism. Readings will include canonical texts authored by major historical figures such as John Locke and Vladimir Lenin as well as pamphlets and legislative debates that document the everyday practice of imperialism. In engaging with such primary sources, we will consider how rival visions of imperialism shaped ideological traditions as diverse as liberalism, fascism, conservatism, and communism.

What can the experience of a minority group like the Jews teach us about roots of globalization? What were the economic, political, and cultural conditions that allowed early modern Jewish merchants to create economic networks stretching from India to the New World? We will answer these questions by examining the connections and interactions between four major Jewish centers: Ottoman Jewry in the Eastern Mediterranean, the Port Jews of Amsterdam and London, Polish-Jewish estate managers in Ukraine, and the Court Jews of central Europe. We will see how European expansion exploited - and was exploited by - these Jewish entrepreneurs. P

This course explores stories about the past that account for the character and agency of non-human actors. The triad of “animal, vegetable, and mineral” has traditionally been understood as the lower levels of the great chain of being. Here, we approach them as actors in past worlds, who should be included in the histories we write. The discipline of history will never escape the anthropocentrism of its narratives, but we can mitigate its impoverishing effects. In addition to several short written assignments, students will complete a series of steps to produce a research paper. P

This course is for students interested in how ideas about what the future of human societies would look like have developed over time, and in the impact of those ideas on cultural, social and political norms. We will look carefully at examples of early modern prophecy before turning to the more recent emergence of theories of economic and social progress, plans for utopian communities, and markedly less optimistic and often dark visions of where we’re headed. We will also explore the role of capitalism, popular culture, and science have played in shaping the practices and vocabularies associated with imagining the future. P

HIST 1977I. Gender, Race, and Medicine in the Americas.
This seminar explores the gendered and racial histories of disease and medicine in nineteenth and twentieth century Latin America and the United States. From the dark history of obstetrics and slavery in the antebellum U.S. South to twentieth-century efforts to curb venereal disease in revolutionary Mexico or U.S.-occupied Puerto Rico, to debates over HIV policy in Cuba and Brazil—we will explore how modern medicine has shaped both race and gender in the Americas. Topics we will explore include environmental health and the body; infant mortality; the medicalization of birth; and the colonial/imperial history of new medical professions, ideologies, and medicines. P

Interested students must register for HMAN 1976D. P

HIST 1990. Undergraduate Reading Courses.
Guided reading on selected topics. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course. P

Prospective honors students are encouraged to enroll in HIST 1992 during semesters 5 or 6. HIST 1992 offers a consideration of historical methodology and techniques of writing and research with the goal of preparing to write a senior thesis in history. The course helps students refine research skills, define a project, and prepare a thesis prospectus, which is required for admission to honors. Students who complete honors may count HIST 1992 as a concentration requirement. Limited to juniors who qualify for the honors program. P
**History of Art and Architecture**

**HIAA 0032. Art and Architecture of the Roman Empire.**

How did a small city in central Italy grow to become one of the most powerful empires in history? This course explores the art and architecture produced in ancient Rome from its origins in the 6th century BCE to the fourth century CE. It considers a wide variety of media, including frescoes, freestanding sculpture, architectural monuments, mosaics, wall paintings, and daily-life objects. By exploring the role of art and architecture in the formation and expansion of the Empire, considering the experiences of ancient viewers, the course offers a post-colonial reading of ancient Roman history and culture. (A)

Fall HIAA0032 S01 17885 MWF 11:00-11:50(16) (G. Rodríguez)

**HIAA 0062. Dutch and Flemish Art: Visual Culture of the Netherlands in the Seventeenth Century.**

Survey the amazing art in Holland and Flanders that revolutionized all media. We will see how paintings, sculpture, and architecture formed the historical environment of life in the 17th-century Netherlands. The work of such artists as Rubens, Rembrandt, Van Dyck, and Vermeer is presented as part of this history of art in a "golden age." Weekly one-hour conference required.

Fall HIAA0062 S01 17889 TTh 1:00-2:20(06) (J. Muller)

**HIAA 0063. Food and Art in the Early Modern World.**

“Taste” is the sensory perception of flavor and the act of judging aesthetic quality. This class asks how the taste for food and for art relate in the early modern world. From the movement of spices, scents, chocolate, and sugar to the vessels that were invented to contain them, we will investigate the trade and circulation of foods and objects across the globe. We will then turn to cities that flourished in the wake of such consumption and their rituals of feasting and fasting. Finally, we will consider the transmission of knowledge about food and eating through recipes, culinary ephemera, a set table, and dinner parties.

Fall HIAA0063 S01 18715 TTh 10:30-11:50(13) (H. Shaffer)

**HIAA 0065. Introduction to the Built Environment.**

This course provides an introduction to the major forms and discourses that shape the built environment, with a focus on architecture and the city, but including examples from a wide range of scales and art and creative practices. The course is organized topically, with the goal of offering a general framework, precise vocabulary, and a conceptual armature for thinking critically about the shape of the built environment. This course fulfills an Architecture concentration requirement. A.

Spr HIAA0065 S01 26313 TTh 9:00-10:20(05) (K. Kleinman)

**HIAA 0070. Introduction to American Art: The 19th Century.**

This undergraduate lecture course traces the rise of American painting in the period from the Revolution to the dawn of modernism in the 20th century. Major figures, such as Thomas Cole, Frederich Church, Winslow Homer and Albert Pinkham Ryder, will be examined, as will significant movements, such as the Hudson River School and Tonalism. Discussion will help place American art within the context of history, the invention of national identity, and parallel developments in popular visual culture. Enrollment limited to 50.

Fall HIAA0070 S01 17693 TTh 2:30-3:50(12) (D. Nickell)

**HIAA 0072. Introduction to American Art: The Twentieth Century.**

This course examines fine art in the US from roughly 1900 through the 1970s, with special attention to modernism and the rise of modern art. Through slide presentations and group discussion, most major figures of the period—Georgia O'Keeffe, Edward Hopper, Alexander Calder, Jackson Pollock, and Andy Warhol among them—will be placed in historical and cultural context. Key events, institutions, and critics of these decades will also be considered. We will look at the role of cultural episodes like the Harlem Renaissance, and the increasing prevalence of women in the art world, as markers of increasing diversity and changing values. Readings by leading scholars will allow a wide-ranging introduction to art historical methods of interpretation. Discussion in sections will help place this art within the context of social history, the invention of national identity, and parallel developments in popular visual culture.

Spr HIAA0072 S01 26308 TTh 2:30-3:50(11) (D. Nickell)
Over the long nineteenth century (1789-1900) revolutions replaced kings with citizens. Capitalist and colonial expansion mobilized armies, goods, and slaves across continents. New class and gender dynamics changed patterns of sociability. Technological innovations mass produced images and goods. In this course, we will discern such social and historical factors in Europe and across the globe alongside artistic ones to interrogate what makes art in this period irrepressibly modern. We will study the turbulence that has defined the century, including the art historical screenings in style from Classicism to Romanticism to Impressionism, with care. Course includes visits and assignments in museums.
Spr HIAA0077 S01 26321 MW 3:00-4:20(09) (H. Shaffer)

HIAA 0084. Postwar to Postmodernism: Art Since 1945.
This lecture course will survey major artistic movements and strategies that developed from the postwar period through the 1980s. Styles and schools discussed will include art informel, Abstract Expressionism, Happenings, expanded cinema, kinetic art, Fluxus, Situationists, Pop, minimalism, conceptual art, performance, Institutional Critique, video art, and appropriation. Taking a globally comparative approach, emphasis will be on the historical conditions that gave rise to such a multiplicity of practices, as well as the theoretical frameworks used to advance and understand them.
Spr HIAA0084 S01 26317 TTh 10:30-11:50(09) (L. Caplan)

HIAA 0100. Introduction to Architectural Design Studio.
The class introduces students to basic tools and strategies in architectural design. A warmup exercise and several design assignments guide students to explore questions about form, function, structure, and light. The semester is devoted to the design of a small house. Students are trained in rigorous, conceptual thinking and graphically and verbally clear pronunciation of consequential design logic. By the end of the semester, the proposed building design is presented in concept diagrams, plans, sections, elevations, and a model. Course is intended for first and second year students. Preference is given to actual and future architecture concentrators. To apply for this class, students are required to submit an override request and a note via CAB to specify their concentration, semester level, and previous applications for this class. Enrollment limited to 15.
Fall HIAA0100 S01 17705 W 9:20-11:50(14) (J. Von Der Schulenburg)

HIAA 0130. Architectural Projection.
This course introduces the beginning student to the origins, media, geometries and role(s) of projection drawing in the design and construction process. The student will learn systems of projection drawing from direct experience, and be challenged to work both from life and to life. Subjects such as transparency, figure/ground, sciagrapy, oblique projection, surface development, volumetric intersections, spatial manipulation and analytic operations will build on the basics of orthographic and conic projection. The course involves line and tone drawing, hand drafting, computer drawing(Autocad) and computer modeling(Rhino).
Spr HIAA0130 S01 26325 W 9:20-11:50 (J. Von Der Schulenburg)

HIAA 0140. Structural and Architectural Analysis.
This course examines in greater detail the importance of materials, structures, and processes in architecture and helps students understand how buildings are made and hold together. The students will study key examples in brick, wood, reinforced concrete, and steel, and design a series of small sample structures.
Fall HIAA0140 S01 17704 TTh 1:00-2:20(06) ‘To Be Arranged’

Building on the skills taught in the Introductory Studio, this studio emphasizes design as a mode of critical cultural inquiry to explore the cultural, environmental, and political forces which shape relationships between cities and the buildings, landscapes that form the public realm. Questions of the meaning of materials, functions, and urban imagery will be addressed with particular emphasis on acquiring greater fluency with the graphic tools and iterative processes through which designers conceptualize, synthesize, and represent the complex conditions of site, program, tectonics, and materiality to create urban landscapes.
The city of Providence usually serves as a case study for observation and testing ground for your ideas, in addition to providing a site for your imaginary project. Students will come away with enhanced proficiency in representational techniques and a greater awareness of the social conditions of architectural production.
Spr HIAA0150 S01 26326 TTh 2:30-5:30 (C. Barton)

HIAA 0190. Advanced Design Studio.
This double-credit studio course builds on the skills taught in the Introductory and Intermediate Studios and will challenge students to design a more complex building. Urban planning strategies are developed to carefully insert the proposed building into a hybrid, densely populated urban context within a city. Students will be briefed to either design a residential housing project or a large public building. Students will analyze the built environment and character of the site to create contextual building designs that strengthen a neighborhood. The final presentation will require a complete set of drawings, renderings, a shared urban context model, and a large-scale model of the proposed building design. A jury of invited architects and professors will conduct a discussion of each project in an exhibition-like setting at the List Art Center. This course can be repeated once for credit.
Fall HIAA0190 S01 18078 W 12:00-3:50(08) (J. Von Der Schulenburg)

For more than a millennium, painters and poets across East Asia have acclaimed soaring peaks astride expansive rivers as the most sublime of all subjects. Often termed “landscape” in modern English, these images of “mountains and waters” (shanshui) offer fascinating insights into the ways in which we now call “the environment” was conceptualized in premodern East Asia. This course examines these celebrated monuments of East Asian painting as ecological entities, investigating their relationships with the human and nonhuman beings that participated in their reproduction, and interrogating the moral implications of their enduring appeal.
Fall HIAA0422 S01 18216 TTh 9:00-10:20(05) (J. Moser)

HIAA 0550. Painters, Builders, and Bankers in Early Modern Italy.
How close can we get to understanding, or even to seeing, the art and architecture of 15th-century Italy? Michael Baxandall proposed studying it with a ‘period eye’ to understand the styles and functions of art and architecture in the domestic, civic, and religious lives of early modern people. We will learn to activate a period eye in the contexts of modern conservation, notions of cultural property, wars, the market and museums to understand both the original circumstances of the production of art, and to ask how these works are seen and the functions they serve today.
A Spr HIAA0550 S01 26306 TTh 1:00-2:20(08) (E. Lincoln)

HIAA 1171. Cities, Landscapes, and Design in the Age of Pandemics.
This is a course about design and public health. Over the course of the semester, we will examine design proposals by architects, landscape architects, and urban planners which respond to a range of concerns about public space and public health. As a part of our study, we will explore topics including urban planning, and policy strategies proposed by Olmsted, Howard, Burnham, le Corbusier to address to fears about urban density, immigration, and contagion; the effect of treatment protocols for infectious diseases like tuberculosis (hygiene, fresh air, sunlight) on the evolution of the work of designers including Aalto, Neutra, Eames, and others.
Fall HIAA1171 S01 18085 T 4:00-6:30(07) (C. Barton)

HIAA 1307. Politics and Spectacle in the Arts of Ancient Rome.
This seminar investigates the intersection of politics and spectacles in the artistic production of ancient Rome. We will explore a variety of public monuments to reveal how they codify essential aspects of Roman culture. Topics include the architecture of entertainment spaces such as theaters, amphitheaters, and circuses, as well as the social functions of spectacles such as gladiatorial games and triumphal processions. We will look at expressions of imperial propaganda in monuments such as tombs and honorary arches. The class also considers how these ideas entered the private realm in the form of domestic wall paintings, mosaics, and sculpture gardens. A

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
HIAA 1440E. The Body and the Senses in Medieval Art.
The seminar considers the contradictory aspects of embodiment in the visual and material culture of the Middle Ages. We will examine the veneration of holy bodies through living holy individuals, and through body parts (relics) and the Eucharist enshrined in sumptuous containers. We will look at the iconography of death and resurrection, the representation of the body in painting and sculpture, attitudes toward sexuality, the performance of identity through clothing, and the sumptuary laws that governed clothing and behavior. We will investigate funerary rituals and burial, and the movement of living bodies in dance and in civic and religious processions.

HIAA 1826. Settler-Colonial Placemaking: From Vikings to the Homestead Act.
The term “settler colonialism” has become popular in recent years to define a spatialized structure of inequality between settler societies and Indigenous peoples. What exactly defines a “settler” in this context? What motivates the movement of people to “new” lands? What forms of violence do settlers enact on Indigenous land? And how has the contemporary landscape been shaped by settlement? To answer these questions, this course examines material and ideological transformations of space, architecture, infrastructure, and landscape that comprise the built environments of European settlements in the North Atlantic World. How might Colonial homesteads, plantations, fields and fences, mines and factories, mills and suburbs, capitals and museums, pipelines and railroads be considered built environments of settler colonialism and capitalism? How do these places come about, and what kinds of relations do they attempt to impose on Indigenous land?

HIAA 1820. Abstraction in Theory and Practice.
This seminar will examine the proliferation of abstraction in the first half of the twentieth century. Looking closely at artworks and primary texts from movements such as Cubism, Futurism, Orphism, Expressionism, Suprematism, Constructivism, the Bauhaus, and De Stijl, our discussion will emphasize the politics of form—that is, how artists understood their artworks to directly engage with and even restructure their audiences and the world. Enrollment limited to 20

HIAA 1875. Form and Formalism.
This seminar will examine formalisms across art and mathematics in order to chart an intellectual pre-history of the computer and our contemporary digital imaginary. We will investigate topics such as: conceptions of "form" in nineteenth-century theories of perception, collective psychology, and geometry; methods of abstraction in twentieth-century art history and mathematics; the emergence of cybernetics and artificial intelligence; and anxieties about historicity and agency that motivated thinkers across all fields. Central questions include: what is the relationship between computation and creativity? How are truth and beauty understood and valued in our respective fields? What in the history of formalisms made the computer—and computational imaginary—possible? Ultimately this course will inquire into an intellectual history in which the humanities have always been digital, and new ways of conceiving human experience and understanding were forged at the intersections of art history and math.

Reading and reports on an approved topic, supervised by a member of the staff. Project proposals must be submitted and approved no later than 30 days before the first week of the semester. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

The subject of the thesis and program of study will be determined by the needs of the individual student. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.
HIAA 2982. Individual Reading for the Doctoral Candidate
Single Credit. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

HIAA 2983. Dissertation Research.
Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

HIAA 2990. Thesis Preparation.
For graduate students who have met the residency requirement and are continuing research on a full time basis.
Fall HIAA2990 S01 16125 Arranged "To Be Arranged"
Spr HIAA2990 S01 24875 Arranged "To Be Arranged"

HIAA 2991. Dissertation Preparation.
For graduate students who are preparing a dissertation and who have met the tuition requirement and are paying the registration fee to continue active enrollment.
Fall HIAA2991 S01 16126 Arranged "To Be Arranged"
Spr HIAA2991 S01 24876 Arranged "To Be Arranged"

HIAA 2992. Master's Thesis Preparation.
For students preparing a terminal MA thesis, may be repeated in the following semester. Sign up for sections according to individual primary advisor.

HIAA XLIST. Courses of Interest to Concentrators.

International and Public Affairs

IAPA 0200. Foundations of Development.
This course presents an interdisciplinary approach to the study of development. The course examines what constitutes development from a variety of different disciplinary perspectives, and the course examines how and in what context the term "development" itself has evolved over time. The goal of the course is to provide students an intellectual and conceptual grounding for study a variety of issues surrounding development, whether in the global North or South.
Fall IAPA0200 S01 17729 TTh 10:30-11:50(03) (N. Chorev)
Spr IAPA0200 S01 26465 MW 11:00-11:50(04) (A. Varshey)

This IAPA Gateway course explores the origins and development of the American Tax State in comparative and historical perspective. It's designed as an interdisciplinary introduction to the welt of problems associated with the raising and spending of public revenue – the life blood of contemporary nation-states. It should be of use to students interested in the political and institutional development of the welfare state, and in the origins, fault lines and prospects of American federalism. We explore the origins and development of the American Tax State in comparative and historical perspective. It is designed as an interdisciplinary introduction to the welt of problems associated with the raising and spending of public revenue – the life blood of contemporary nation-states.
Fall IAPA0400 S01 17728 TTh 1:00-2:20(06) (A. Levitas)

IAPA 0900. How We Compete: The Race for Industrial Supremacy Over Time and Place.
This course examines factors that have driven industrial competitiveness from the dawn of industrialization to the present. What does being "competitive" really mean? How have nations traditionally achieved and sustained industrial competitiveness over time? What have been the social costs and consequences of achieving such competitiveness? And, most fundamentally, who really is competing against whom? Nations? Industries? Different segments of society? This course examines how these questions have evolved over time and across different societies, with the intention of illuminating and clarifying the choices we face today in dealing with rapid technological change, shifting global geopolitical circumstances, and growing environmental challenges.
Spr IAPA0900 S02 26464 MW 8:30-9:50(02) (E. Steinfeld)

IAPA 1002. Foundations of Policy and Governance.
An overview of policymaking and policy analysis in the contemporary United States. The course begins with an examination of traditional justifications for government action. We will then examine the discipline of policy analysis that has arisen to design and evaluate public policies. We will also consider critiques of the rational method and ask questions about how policy expertise fits into the political system. The course ends with classic works on organizations and implementation. Not open to graduate students.
Fall IAPA1002 S01 18149 TTh 6:40-8:00PM(02) (R. Hackey)
Spr IAPA1002 S01 26414 TTh 6:40-8:00PM(18) (R. Hackey)

This course presents an interdisciplinary approach to the study of security. This means we examine the notion of what constitutes security from a variety of disciplinary perspectives that may not always agree or overlap. Specifically, in addition to political science, the course draws on recent work in evolutionary psychology, biological anthropology and behavioral economics to examine existing problems, issues and questions in security studies. The goal of this course is to investigate the extent to which various disciplinary models and methods can help to further inform or develop the study of security. Substantive applications include a wide variety of empirical methods.
Fall IAPA1003 S01 18165 TTh 10:30-11:50(13) "To Be Arranged"

Interested students must register for POLS 1020.
Fall IAPA1022 S01 18707 Arranged "To Be Arranged"

IAPA 1201B. Victory, Defeat, and Everything In-Between: History, Strategy, and Politics.
This is a course about strategy, politics, and history, their complicated relations, and the ways in which strategy talk has become a staple of politics. One goal is to give students a working knowledge of the fundamentals of strategic theory at multiple levels of analysis, ranging across the various instruments of military power. Another, more important goal of our seminar is to make students aware of strategic thought as tools with which to think as opposed to simply existing as historical artifacts. We are not intellectual antiquarians. Each week we will challenge students to make clear connections between theorists, history, and contemporary politics. If students leave the course with only one idea, it should be that there is no such thing as a military strategy separable from achieving political objectives.
Fall IAPA1201B S01 18231 Th 4:00-6:30(04) "To Be Arranged"

IAPA 1201D. Social Entrepreneurship.
Social Entrepreneurship, engages students in the process of exploring significant global problems and developing innovative solutions that drive transformative social change. The course helps students understand the strategies that social entrepreneurs employ to tackle complex and entrenched social problems with transformative approaches that work and impact systems. Students will learn about real organizations and interact with entrepreneurs leading this work. Case studies, complemented by articles and guest speakers, will show different approaches to social entrepreneurship and illustrate the strengths and weaknesses of various models and strategies.
Fall IAPA1201D S01 17940 TTh 2:30-5:30(12) (W. Allen)

IAPA 1201E. Nonprofit Organizations.
Contemporary nonprofits and their role in community building and shaping public policy are central to this course. Topics include how strong coalitions impact housing, welfare and children’s policy, organizing empowered communities, the influential and engaged donor and building the value of nonprofits. Case studies will be featured and new nonprofit models will be conceptualized to strategically address critical human need. Enrollment limited to 20 juniors, seniors, and graduate students concentrating in Public Policy. This course satisfies the American Institutions requirement.
Spr IAPA1201E S01 26466 W 3:00-5:30(10) (W. Allen)

IAPA 1201F. Gender and Sexuality in the Middle East.
The aim of this course is to offer an overview of the key issues in the study of gender and sexuality in the Middle East. It will provide a gendered understanding of prevailing structures, ideologies, social practices and trends for those students interested in Middle East societies, cultures and politics, as well as those interested in women and gender studies. While the course focuses on anthropological approaches, it is interdisciplinary in scope, with readings and theoretical underpinnings ranging from...
anthropology to history, sociology, and political science, cultural and media studies.

Fall IAPA1201F S01 18478 TTh 9:00-10:20(05) (N. Al-Ali)

IAPA 1401. Economic Development in Latin America.
This course covers some of the unique events and characteristics that have shaped the economic development landscape of Latin America since colonial times until the present. Topics include: the historical legacy, why Latin America fell behind, import substitution industrialization, the debt crisis, poverty and income inequality, inflation, trade and financial liberalization and competitiveness. The class exposes students to a number of concepts and tools that can be broadly applied to the understanding of development in other geographic areas.
Fall IAPA1401 S01 17732 TTh 9:00-10:20(05) (V. Michelman)

IAPA 1402. Beyond Sun, Sea and Sand: Exploring the Contemporary Caribbean.
For many people, their image of the Caribbean is the tourist brochure and television advertisement representation of sun, sea and sand. This course challenges that through a broad introduction to the real society, economy and politics of the Caribbean region. Using literature, film and traditional texts, it captures the cultural and linguistic complexity of the region through the exploration of a range of central themes such as ethnicity, color, class, politics, as well as more specific, targeted areas including economic inequality, migration, and tourism.
Spr IAPA1402 S01 26487 Th 4:00-6:30(17) (P. Lewis)

IAPA 1500A. Ethnographic Research Methods.
This course introduces students to ethnographic research methods as a capacious set of tools for understanding the diverse ways people make sense of social issues that affect their lives and shape their experiences. It also addresses the ethical, legal, and political dilemmas that ethnographers encounter while engaging in field research. The course consists of weekly lectures, fieldwork practice, and ethnographic lab sessions. Students learn how ethnographers design their research projects, undertake participant observation in their chosen field sites (including online), write fieldnotes, prepare for and conduct interviews, collect and analyze artifacts, use visual and audio tools to experiment with multimodality, and work with archives, both historic and contemporary. Throughout the course, students will practice and apply these methods to pursue independent research projects on a topic of their choice. (IAPA Qualitative Research Methods course)
Fall IAPA1500A S01 18477 W 3:00-5:30(10) (I. Jusioniye)

IAPA 1700P. Displaced: How Global Systems Shape Refugee Families.
This course approaches the global refugee crisis from a sociological vantage point. Who is considered a refugee? How is this category constructed? We examine how the state and other global systems categorize and constrain refugee families across borders. The family is a key institution—in society as well as in migration. We investigate how displacement shapes key dynamics of family life, such as family roles and identities, social relationships and networks, and economic strategies and status. We will follow the experiences of refugee families and the institutions that shape their trajectories—from their lives in limbo displacement (often in the Global South) to the possibility of more durable solutions, including repatriation to their home country, local integration, or resettlement in the Global North. (IAPA Jr Seminar)
Fall IAPA1700P S02 17745 T 4:00-6:30(07) (B. Sackett)

IAPA 1700R. Inequality, Policy, and Economics.
Tax the rich? Increase public housing? Invent a new vaccine? This course examines inequality in the United States by using the tools of economic research to ask: who benefits from different policy choices? And at what cost? Week-by-week, we will dive into different domains such as education, housing, health, innovation, wealth, and taxation. To prepare for each class, students will be asked to read a published economics research paper in depth. We will use this paper as jumping off point to explore the broader domain and hone our understanding of research design and quantitative methods. This seminar is designed to help students build skills and generate ideas for a future senior thesis or capstone project. The semester will culminate in students writing a proposal for an independent research project. (IAPA Jr Seminar)
Fall IAPA1700R S01 17746 M 3:00-5:30(03) (J. Atwood)

IAPA 1700S. Survey of Time: Temporality, Social Theory, and Difference.
Time. The lifeblood for everything we do in this life and potentially the next. It is the distance between you and I. It is the only thing we all have and can never regain. In our very finite lives, we are constantly working against the clock in an attempt to find meaning, love, and purpose. Our daily lives are calculated by the clock, calendars, and other measures of time blocks. Our mental processes (memory, consciousness, etc.) are steeped in temporal terms as we consolidate our present on the basis of our pasts and potential futures. Time is everything – the only thing. The goal of this course is to expose you to the funky concept of time and how it orders and informs our daily lives. (IAPA Jr Seminar)
Fall IAPA1700S S01 17747 M 3:00-5:30(03) (G. Friday)

IAPA 1701M. Justice, Gender, and Markets.
How do poor women connect to markets? How have philosophical ideas about gender influenced ideas about gender and justice and consequently, gender, justice and markets? Answering these questions helps us explore how justice, gender, and markets interact and the conditions that keep millions of women trapped in poverty. They help us understand the history of entrepreneurship by women and the role entrepreneurship plays in empowering women. Such an understanding, is of course, a critical step to help us develop policies and programs that support women seeking to escape entrenched poverty.
Fall IAPA1701M S01 17749 Th 4:00-6:30(04) (V. Pingale)

IAPA 1701N. Diplomacy, an Art That Isn't Lost.
This seminar is offered in Washington DC to Brown in Washington students and remotely to students on campus. It examines the practice and profession of diplomacy and its relationship to the policy process. While the practice of diplomacy and the policy-making process has a U.S. focus, the lessons learned apply to other nation states as well. We briefly review the history of inter-state relations, including the international legal basis for diplomatic relations. Diplomacy has evolved over the years and has been greatly influenced by modern technology; however, it continues to incorporate such common functions as policy formulation, representation, reporting, negotiation, intercultural contacts and interaction with the media, parliamentary bodies and other external actors. The course will provide a knowledge base for understanding the policy process and will expose students to policy analysis, memo writing for decisionmaking, negotiations and verbal communications.
Fall IAPA1701N S01 18504 W 3:00-5:30(10) (J. Atwood)
Fall IAPA1701N S02 18505 W 3:00-5:30(10) (J. Atwood)

IAPA 1701V. Democratization.
This course examines why autocratic states democratize and why democracy breaks down in already democratic states. The course analyzes domestic factors (e.g., values, norms, religion, culture, economic development and inequality, natural resources, protests, insurrections, and coups d’etat,), as well as international ones (e.g., trade, foreign aid, international organizations, and international war). The course also examines the reasons for and the effectiveness of different ways that governments resist democratization, including accommodation, censorship, and repression.
Fall IAPA1701V S01 18503 W 3:00-5:30(10) 'To Be Arranged'

IAPA 1701X. American Education Policy in Historical and Comparative Perspective.
This seminar examines the historical roots of select but fundamental issues in the finance, regulation, and governance of public education. Focus is on the American expression of these issues and debates, but we will look to the experience of other multilevel democracies to highlight conceptual and institutional differences that are of theoretical interest and perhaps of practical use. The seminar will explore: how the goals of education as a public good get defined; history of school finance and governance in America, including our often court-ordered efforts to make this financing more ‘equitable’; ways in which ‘school choice’ has intersected in practice and in theory with segregation, integration, and debates over mechanisms to improve school quality; problems caused by using student test results to hold teachers and schools accountable for performance; and the role of teacher training systems in educational improvement.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
IAPA 1800. Law and Public Policy.
This course will give students an introduction to business organizations – the law that governs corporations and partnerships, how they raise money in the financial markets, and how to explore the public policy issues that inform the regulation of business and finance. We will look at business organizations, law that governs how companies raise money, operation of the stock markets, insider trading, and the regulation of institutional investors including mutual funds, hedge funds and private equity funds. We will finish by taking up corporations as persons, their social obligations and the recent Supreme Court cases on corporations and the First Amendment. Overrides granted based on random drawing for 11 seniors and 8 juniors; to be eligible you must turn in the first week’s assignment and attend the first class. Put course in your cart to access the assignment via canvas.
Spr IAPA1800D S01 26486 Th 4:00-6:30(17) (A. Gabinet)

IAPA 1801. Science and Technology Policy in the Global South.
Using both theoretical ideas and empirical examples, this seminar will explore the relationships among science, technology, society, and public policymaking in the Global South, in places where local science and global science often collide and sometimes clash. The class will investigate, from a variety of perspectives, how the governance of science and technology in various parts of the Global South is influenced by their past experiences, forms of public science organization, systems of knowledge and belief, civic epistemologies and regulatory frameworks, and strategic agendas for development, as well as the knowledge claims and concerns of social movements, and tensions in power and social relations. Priority given to IAPA seniors and juniors.
Fall IAPA1801 S01 17752 T 4:00-6:30(07) (G. Augusto)
Spr IAPA1801 S01 26473 Th 4:00-6:30(16) (G. Augusto)

IAPA 1802M. Rwanda Past and Present.
In the mid-1990s, few countries on earth were as devastated as Rwanda. As many as one million people or more had been killed in a 100-day genocide, and the fleeing regime had left the country in ruins. Today, however, Rwanda is not only at peace but full of ambition. Some believe it is poised to rise from poverty and become an example for developing countries everywhere. Others worry that trouble is brewing and that another apocalypse could lie ahead.
Fall IAPA1802M S01 17945 W 3:00-5:30(10) (S. Kinzer)

IAPA 1803. Humanitarian Response in Modern Conflict.
This course provides students with a comprehensive introduction to exploring challenges and opportunities related to conflict from both a human and national security perspective – with a special focus on putting people and communities, as opposed to national interests, at the center of attention. Students will gain a deep understanding of humanitarian crises caused by conflict, including impacts on food and water security, healthcare, mass displacement of civilians, and protection of civilians and humanitarian aid workers.
Fall IAPA1803 S01 17753 T 4:00-6:30(07) (D. Polatty)

IAPA 1804. Legal Methods for Public Policy.
This course uses both traditional lecture and interactive, mock-trial to give public policy students with the tools to understand, interpret and apply the law as expressed in judicial opinions, particularly the opinions of the Supreme Court of the United States. The end-product for the course will be a capstone public policy paper on a subject of the student’s choice involving timely or complex legal issues. For the first three weeks, we’ll have an introduction to civil procedure, examining how cases are brought, the requirements for valid claims, including what affects parties’ right to bring a lawsuit, emergency relief, disposition with and without trial, appeals and the principles that the Supreme Court uses in deciding cases. If the seminar is oversubscribed, admission will be by lottery, comprised of students who turn in the first assignment and attend the first class session.Overrides granted based on random drawing for 11 seniors and 8 juniors; to be eligible you must turn in the first week’s assignment and attend the first class. Put course in your cart to access the assignment via canvas.
Fall IAPA1804D S01 18377 T 4:00-6:30(07) (A. Gabinet)

IAPA 1804M. Overcoming Threats to Human Security.
This course provides students with a comprehensive introduction to exploring challenges and opportunities related to global challenges from both a human and national security perspective – with a special focus on putting people and communities, as opposed to national interests, at the center of attention. Students will gain a deep understanding of key issues including humanitarian crises caused by natural disasters, and the impacts of climate change, food and water security, urbanization, mass migration, and infectious disease/pandemics on vulnerable people around the world.
Spr IAPA1804M S01 26471 W 3:00-5:30(10) (D. Polatty)

IAPA 1807C. Individual Research Project.
Section numbers vary by instructor.
Required: A completed proposal form and syllabus and faculty sponsor's and concentration advisor's approval prior to registering.

IAPA 1810. Democratization and Autocratization.
Since the 1970s studies of democratization have shifted from a "global resurgence of democracy" to an "authoritarian resurgence." This course covers the conceptual tools for understanding these developments. We pay particular attention to the assumptions, biases, knowledge structures, and inferences produced by language and imagery—e.g., oilfields and greenhouses, pendulums and waves, pacts and backsliding—in our understanding of new and emerging threats to democracies across the globe. Includes single case, cross-national comparisons, and big data set studies. IAPA Capstone/Sr Seminar
Spr IAPA1810 S01 26472 Th 4:00-6:30(17) (C. Elliott)

IAPA 1816A. Senior Honors Seminar.
Open only to Senior students accepted into the honors program in international relations. Instructor permission required.
Fall IAPA1816A S01 17755 W 6:30-9:00PM (C. Elliott)
Fall IAPA1816A S02 17756 Th 4:00-6:30(04) 'To Be Arranged

IAPA 1817A. Senior Honors Thesis.
Open only to Senior students accepted into the honors program. Instructor permission required. This course is the second of the two required courses for students writing a thesis in International and Public Affairs, Development Studies, International Relations, or Public Policy. It is taught as an independent study.

IAPA 1818A. Individual Research Project.
Limited to students doing independent study work for Development Studies, International and Public Affairs, International Relations, or Public Policy. Banner overrides will be given by the Undergraduate Concentrations Manager.

IAPA 1821P. Political Psychology of International Relations.
This course covers basic methods and theories in the use of political psychology to study topics in international relations. The second part of the course applies these models to particular topics, including leadership, group dynamics, and the role of emotion in decision making.
Fall IAPA1821P S01 18712 T 4:00-6:30(04) (R. McDermott)

IAPA 1852. Individual Research Project.
Supervised reading or research. Specific program arranged in terms of the student's individual needs and interests. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

Italian Studies
ITAL 0100. Elementary Italian.
Elective for students without previous training in Italian. No credit for first semester alone. Fundamentals of Italian grammar and development of skills in speaking, comprehension, and writing. Overview of contemporary Italian society. Four meetings per week, audio and video work, two Italian films. Note: This is a year course.
Fall ITAL0100 S01 17920 MW 1:00-1:50(04) (C. Abbona-Sneider)
Fall ITAL0100 S01 17920 Th 1:00-2:20(04) (C. Abbona-Sneider)
Fall ITAL0100 S02 17921 Th 10:30-11:50(04) (C. Abbona-Sneider)
Fall ITAL0100 S02 17921 MW 11:00-11:50(04) (C. Abbona-Sneider)

ITAL 0110. Intensive Elementary Italian.
Covers the same material presented in Italian 100-200. One semester equivalent to the standard two-semester sequence. Daily meetings plus audio and video assignments.

For up-to-date course information please visit Courses@Brown.edu (https://cabs.brown.edu).
ITAL 0200. Elementary Italian.
See Elementary Italian (ITAL 0100) for course description.
Spr ITAL0200 S01 26193 MW 1:00-1:50(08) (C. Abbona-Sneider)

ITAL 0300. Intermediate Italian I.
Review of the fundamentals of grammar, with emphasis on speaking and writing. Reading of representative short stories. Weekly compositions, presentations, and a paper. Three Italian films. Prerequisite: ITAL 0100-0200, or ITAL 0110, or placement by examination. Requirement for enrollment in the Bologna Program.
Fall ITAL0300 S01 17925 MW 11:00-11:50(07) (C. Abbona-Sneider)

ITAL 0400. Intermediate Italian II.
Review of specific grammar problems. Reading of one novel and newspaper articles. Compositions and oral presentations. Three Italian films. Prerequisite: ITAL 0300, or placement by examination.
Spr ITAL0400 S01 26188 MW 11:00-11:50(04) (C. Abbona-Sneider)

ITAL 0500. Advanced Italian I.
The purpose of this advanced course is to improve speaking and writing skills by offering extensive practice in a variety of styles and forms. Students will discuss various aspects of contemporary Italian culture. Reading, analysis and class discussion of texts (articles, songs, pictures, short stories, movies and television), oral presentations, based on research, and a writing portfolio (compositions, essays, blog and a journal). Prerequisites: ITAL 0400, or placement by examination.
Fall ITAL0500 S01 17922 MWF 11:00-11:50(16) (C. Abbona-Sneider)

ITAL 0600. Advanced Italian II.
A sixth semester course with intensive practice in speaking and writing. Short stories, poems, music, and movies will be used to discuss Italian Society from the Second World War through the present. We will explore some important themes--family, religion, gender, and politics. Class discussion, compositions, oral presentations, and a final paper. Prerequisite: ITAL 0500, or placement by examination.
Spr ITAL0600 S01 26189 MW 11:00-11:50(04) (C. Abbona-Sneider)

What does it mean to resist? This course explores the concept of resistance in its multiple cultural representations. Starting from the partisan Resistance against the Nazi-Fascist regime (1943-45), we will touch upon several historical uprisings: civil rights movements, feminist movements, the so-called Years of Lead, anti-mafia activism, antiracist activism. From literature to film/TV series, from photography to visual art to poetry, artists have politically engaged, challenged and modified the idea of resistance embedded within the identity of contemporary Italians. We look at artistic expressions of resistance performed against different forms of power (nationalism, globalization movements, the so-called Years of Lead, anti-mafia activism, anti-racist activism). This course will seek to interrogate how enduring images of things are imprinted in writing or, conversely, how writing invents its own photographic gaze. This course will be taught in Italian. Prerequisite: ITAL 0600, Brown in Bologna Program or placement. Contact the instructor to verify your proficiency if you have not taken Italian at Brown. WRIT. DIAP.
Fall ITAL1000 S01 18681 T 4:00-4:50(07) (L. Odello)

ITAL 1010. Dante in English Translation: Dante's World and the Invention of Modernity.
Primarily for students with no knowledge of Italian. Given in English. Concentrators in Italian should enroll in ITAL 1610; they are expected to read the material in the original. Close study and discussion of Dante's deployment of systems of retribution in the Inferno and rehabilitation in the Purgatorio with a view to imagining a society based on love and resistant to the effects of nascent capitalism and the money economy. Dante's work summarizes and transforms the entire ancient and medieval tradition of literature, philosophy, and science.
Fall ITAL1010 S01 17280 M 3:00-5:30(03) (R. Martinez)

ITAL 1020. Decameron: Technologies of Representation, Medieval to Modern.
This course examines intersections of textual and visual representation in Boccaccio's Decameron. A close reading of the text and its reception will enable us to explore how nascent artistic concerns like narrative realism and three-dimensional perspective emerged in conjunction with literary devices, forming new technologies of representation. Analyzing the text's central questions concerning economic privilege, social hierarchy, and civic engagement, we will explore the role of literary representations of art and visual interpretations of the text in commenting on the nature of art and in critiquing sociocultural conditions. Primary-source reading will be accompanied by selections from contemporary critical theory, manuscripts, cinematic adaptations, and digital media responses to covid-19.
Spr ITAL1020 S01 26172 W 3:00-5:30(10) (R. Martinez)

ITAL 1030B. Modernity, Italian Style. Class, Gender, Race, Ideology in the Cinema of the Economic Miracle.
Grappeling with migration, class struggle, ethnic, gender and generational conflicts, environmental upheavals, counter-cultural movements and a profound ideological polarization, Italy in the 1960s provides a striking historical laboratory for our contemporary predicaments. We will watch a selection of films from the golden decade of Italian cinema, focusing in particular on how modernist masters such as Antonioni, Fellini and Pasolini, and young auteurs such as Belloccio, Bertolucci and Cavani, forged original styles and expressive techniques in order to capture and denounce the contradictions of a neo-capitalist society. Taught in English (an Italian discussion session will be activated if enough students enroll).
Fall ITAL1030B S01 17758 MWF 11:00-11:50(12) (M. Riva)

With the invention of photography, writing too, whether philosophical or literary, inaugurates a new way of freezing time, looking at the world, and confronting memory. From Italo Calvino to Giorgio Agamben, from Leonardo Sciascia to Marco Praz, from Laiba Romano to Antonio Tabucchi or more recent authors (Helena Janeczek or Paolo Maurensig), writing negotiates with photographic images, thematizing them or incorporating them into its textual body. This course will seek to interrogate how enduring images of things are imprinted in writing or, conversely, how writing invents its own photographic gaze. This course will be taught in Italian. Prerequisite: ITAL 0600, Brown in Bologna Program or placement. Contact the instructor to verify your proficiency if you have not taken Italian at Brown. WRIT. DIAP.
Fall ITAL1100 S01 18681 T 4:00-4:50(07) (L. Odello)

ITAL 1262. Women, Gender, and Feminism in Early Modern Italy.
The variety of Italian women's histories, issues of genders and sexualities, and women's ingenious responses to circumvent the limitations placed upon them are the focus of this course. During a Renaissance of flourishing debate on women ranging from the theater of Machiavelli to the dialogue of Castiglione, women themselves transformed historical feminism, the intellectual and cultural movement that advanced the idea of equality and equal opportunity across genders. Materials include archival documents, treatises, letters, literature and the visual arts. This course is the same as HIST 1311L. Taught in English.
Fall ITAL1262 S01 17069 TTh 1:00-2:20(06) (C. Castiglione)

ITAL 1320. Great Authors and Works of Italian Renaissance.
This class is a reading of the most successful narrative poem of the Early Modern period, Ariosto's Orlando furioso (The Madness of Orlando, 1516-32), a work so popular it increased European literacy and rivaled the Bible in editions published. It combined the genres of chivalric romance and religious war with the classic heroic epic, but features ladies-errant along with knights and shrewdly undermined hypermasculine late feudalism (the philosopher Hegel said it had destroyed chivalry). It drove Cervantes' Don Quixote mad, fueled a fierce debate regarding Tasso's
counter-reformation epic Jerusalem Delivered, and in England influenced Sidney, Spenser, Shakespeare, and Lord Byron. Sections in English and Italian (depending on enrollment); we will have access to a new translation by a leading contemporary Ariosto scholar, Albert Ascoli.

**ITAL 1920. Independent Study Project (Undergraduate).** Undergraduate Independent Study supervised by a member of the Italian Studies Faculty. Students may pursue independent research in order to prepare for their honors thesis or honors multimedia project, or they may enroll in the course in order to work individually with a faculty member on a specific area of Italian Studies not covered in the current course offerings. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

**ITAL 1990. Senior Conference.** Special work or preparation of an honors thesis under the direction of a member of the staff. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

**ITAL 2050. Microhistory.** Microhistory emerged in the 1970s in Italy, but was quickly embraced by scholars across the globe. Microhistory questioned totalizing explanations of historical change; rejected anachronism in all forms; and recovered the voices of individuals left out of traditional historical narratives. This course explores and critiques the method. Participants write an article in their area of interest, informed by microhistory. The course is taught in English.

**ITAL 2100. Introduction to Italian Studies.** This seminar, a requirement for graduate students in Italian Studies, has three objectives: 1) to provide a panoramic view of the current research in the interdisciplinary field of Italian studies (literature, history, arts and media); 2) to provide a picture of the professional state of the field, within the framework of more global developments in academia and the job markets; 3) to provide useful information about the resources and the new tools and techniques for research available to students at Brown and elsewhere (special collections in the Brown libraries, digital resources such as data bases, electronic journals, web projects, etc.).

**ITAL 2450. Exchange Scholar Program.**

**ITAL 2820. Italian Studies Colloquium.** The Italian Studies Colloquium is a forum for an exchange of ideas and work of the community of Italian scholars at Brown and invited outside scholars. Graduate students present their work in progress, and engage the work of faculty and visitors. They are expected to come prepared with informed questions on the topic presented. Presentations in both Italian and English. Instructor permission required.

**ITAL 2970. Preliminary Examination Preparation.** For graduate students who have met the tuition requirement and are paying the registration fee to continue active enrollment while preparing for a preliminary examination.

**ITAL 2980. Reading and Research.** Courses on special subjects individually planned and supervised. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

**ITAL 2990. Thesis Preparation.** For graduate students who have met the residency requirement and are continuing research on a full time basis.

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**Judaic Studies**

**HEBR 0100. Elementary Hebrew.**

An introduction to the skills of reading, writing, and conversing in contemporary Israeli Hebrew. Students also read Hebrew texts adapted for their level of Hebrew based on biblical, rabbinic, and modern Hebrew literature, which introduce them to the approaches of Hebrew writers in various periods and to a variety of cultural issues. If registration is closed, please contact the professor and a wait list will be created. This is the first half of a year-long course whose first semester grade is normally a temporary one. Neither semester may be elected independently without special permission. Enrollment limited to 20.

Fall HEBR0100 S01 16443 TTh 1:00-2:20(08) (R. Adler Ben Yehuda)

Fall HEBR0100 S01 16443 MWF 1:00-1:50(08) (R. Adler Ben Yehuda)

**HEBR 0200. Elementary Hebrew.**

This is the second half of a year-long course, an introduction to the skills of reading, writing, and conversing in contemporary Israeli Hebrew. Students also read Hebrew texts adapted for their level of Hebrew based on biblical, rabbinic, and modern Hebrew literature, which introduce them to the approaches of Hebrew writers in various periods and to a variety of cultural issues. Prerequisite: HEBR 0100. Students must have taken HEBR 0100 for credit to receive credit for this course. Exceptions must be approved by both the academic department and the Committee on Academic Standing. Enrollment limited to 20.

Spring HEBR0200 S01 25112 TTh 1:00-2:20(06) (B. Adler)

Spring HEBR0200 S01 25112 MWF 1:00-1:50(06) (B. Adler)

**HEBR 0300. Intermediate Hebrew.**

Develops the skills of reading, writing, and conversing in contemporary Israeli Hebrew at the intermediate level and of reading Hebrew texts of the biblical, rabbinic, and modern periods (biblical stories, rabbinic legends, modern Hebrew poems, stories, essays, newspaper articles). Discussions and compositions focus on the psychological, cultural, political, and social issues reflected in the Hebrew sources that we study. Prerequisite: HEBR 0200 or equivalent. Enrollment limited to 20. If unable to enroll because of closed registration, please contact the professor and a wait list will be created.

Fall HEBR0300 S01 16444 TTh 12:00-12:50(15) (R. Adler Ben Yehuda)

Fall HEBR0300 S01 16444 MWF 12:00-12:50(15) (R. Adler Ben Yehuda)

**HEBR 0400. Intermediate Hebrew.**

Develops the skills of reading, writing, and conversing in contemporary Israeli Hebrew at the intermediate level and of reading Hebrew texts of the biblical, rabbinic, and modern periods (biblical stories, rabbinic legends, modern Hebrew poems, stories, essays, newspaper articles). Discussions and compositions focus on the psychological, cultural, political, and social issues reflected in the Hebrew sources that we study. Prerequisite: HEBR 0300 or equivalent. Enrollment limited to 20. If unable to enroll because of closed registration, please contact the professor and a wait list will be created.

Spring HEBR0400 S01 25113 TTh 12:00-12:50(01) (R. Adler Ben Yehuda)

Spring HEBR0400 S01 25113 MWF 12:00-12:50(01) (R. Adler Ben Yehuda)

**HEBR 0500. Writing and Speaking Hebrew.**

Enables students to improve their skills in speaking and writing Hebrew on a variety of topics. Features advanced work on language structure and active language practice in the classroom. Class discussions of Israel's current events draw on Israeli stories, novels, television programs, and films and on the Israeli press. Students also compose essays and stories in Hebrew. Prerequisite: HEBR 0400 or equivalent. Enrollment limited to 20.

Fall HEBR0500 S01 16445 TTh 2:30-3:50(12) (R. Adler Ben Yehuda)

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
HEBR 0600. Issues in Contemporary Israeli Society, Politics, and Culture in Hebrew.
An exploration of current issues in contemporary Israeli society, politics, and culture: the Israeli-Palestinian conflict, tensions between ultra-orthodox and secular Jews, religion and state, Israel as a Jewish and democratic state, the economic gap between rich and poor, the integration of citizens from a variety of backgrounds (Jews of Middle Eastern, North African, Russian, and Ethiopian origin; Arab citizens of Israel), gender relations. Sources include films, television programs, Internet news, works of literature. Conducted in Hebrew. Emphasizes strengthening Hebrew reading, writing, and speaking skills. Prerequisite: HEBR 0500. Students who have not taken HEBR 0500 should see instructor for permission to enroll.
Spr HEBR0600 S01 25114 MWF 10:00-10:50(03) (D. Jacobson)

Judaic Studies

JUDS 0050A. Believers, Agnostics, and Atheists in Contemporary Fiction and Memoirs.
In recent decades, there has been a resurgence of religiosity in contemporary society, while at the same time many have been skeptical and even hostile to religious belief and practice. Others are just not sure what to believe. We will study selections of fiction and memoirs by writers of Christian and Jewish background that explore such situations as the affirmation or negation of the existence of God, the role of religious ritual in a person’s life, and the positive and negative impacts on society of religious institutions and the clergy who lead them. Enrollment limited to 19 first-year students.
Fall JUDS0050A S01 16446 MWF 10:00-10:50(14) (D. Jacobson)

JUDS 0050K. Hope, Despair, and Longing in Jewish Thought.
What does messianism try to name in Jewish thought? From the divergence with Christianity, to the disappointed expectation of the 17th-century messiah Sabbatai Zvi and the rise of Hasidism and its reverence for the saintly (zaddik); from questions of justice, equality, and revolution to the interpretation of Jewish Statehood through the lens of supernal redemption, the messianic idea provides a window onto how Jews have made sense of exile and suffering, hope and longing. This class will introduce students to the history of Jewish thought through the lens of messianism, asking about the emotions and attachments that have become identified with the messianic idea and how this idea might help us understand political and ethical despair and longing in a world of human suffering.
Fall JUDS0050K S01 17106 TTh 1:00-2:20(06) (P. Nahme)

JUDS 0060. The Bible and Moral Debate.
How was the Bible employed in past moral debates that divided American society, e.g., debates over the legitimacy of slavery? How is the Bible used in contemporary moral discourse, e.g., concerning abortion, capital punishment and gay rights? What does the Bible really have to say about these issues? This course will consider these and other questions through a close reading of pertinent texts which address topics such as abortion, homosexuality, capital punishment, immigration, gender, family violence, race and slavery, disability, genocide, the environment and inequality of wealth. No prerequisites.
Spr JUDS0060 S01 25116 TTh 2:30-3:50(11) (S. Olyan)

JUDS 0064. Angels and Demons: Past and Present.
What are angels and demons, what roles do they play in religious thought, and how do their roles change or remain consistent over time? These are only a few of the questions this course seeks to address. Texts to be considered include the Hebrew Bible (Old Testament), the New Testament, the Dead Sea Scrolls, rabbinic literature, the Kabbalah, records of the Salem Witch Trials, Milton’s Paradise Lost, Goethe’s Faust, the Book of Mormon, contemporary Evangelical literature and New Age writings, and representations of angels and demons in film and television. No prior knowledge of the Bible, Judaism or Christianity is assumed.
Fall JUDS0064 S01 18200 TTh 2:30-3:50(12) (S. Olyan)

JUDS 0067. Jesus (RELS 0014).
Interested students must register for RELS 0014.

JUDS 0686. The Ten Commandments.
A history of the Ten Commandments from the Bible to today. How have the commandments been understood by Jews and Christians throughout time? What symbolic importance have they had?
Spr JUDS0686 S01 25117 W 3:00-5:30(10) (M. Satlow)

JUDS 0830. The Bible as Literature.
Explores how methods of literary analysis can be applied to the reading of narratives of the Old Testament/Hebrew Bible (in English translation). Also compares the ways that modern writers have transformed biblical stories into new interpretive literary works. For students interested in an introduction to the Bible, as well as students with a knowledge of the Bible who want to deepen their understanding of biblical narratives and investigate the influence of the Bible on modern literature. All readings in English.
Fall JUDS0830 S01 16456 MWF 11:00-11:50(16) (D. Jacobson)

JUDS 0902. History of the Holocaust.
Explores questions raised by the Holocaust regarding how such barbarism erupted in our so-called civilized and enlightened age. Attempts to analyze the meaning of the Holocaust from three vantage points: that of European, and more particularly, German history; that of Jewish history, and that of those states and religious institutions which shared responsibility. Enrollment limited to 40. If unable to enroll because of closed registration please contact the professor and a wait list will be created.
Spr JUDS0902 S01 25118 TTh 1:00-2:20(08) (A. Teller)

JUDS 1614. The Political Theology of the "Jewish Question".
This class explores the theologico-political predicament of European modernity: the modern problem of negotiating seemingly insoluble social and political tensions often rooted in purportedly absolute norms and claims. Tracing the interwoven problems of race, religion, and secularism in the European "Jewish Question," we will inquire into the possibilities for alternative, fugal modes of being for racialized people. Authors include Arendt, Carter, Derrida, Du Bois, Fanon, Sartre, Schmitt, Strauss and Wilderson, Wynter.
Fall JUDS1614 S01 16457 W 3:00-5:30(10) (P. Nahme)

This course surveys the history of Israel from its Proclamation of Independence in 1948 until today. Israel's history has unfolded under the shadow of its prolonged conflict with the Palestinians and its Arab neighbors. At the same time, an entirely new, vibrant and dynamic society and culture has developed there. This course aims to familiarize the student with the major outlines of Israel's development, and with different narratives and interpretations of that history. The reading materials and class discussions will examine not only the Arab-Israeli conflict, but also its influence on Israeli politics, society and culture.
Spr JUDS1711 S01 25120 TTh 10:30-11:50(09) (R. Rojanski)

JUDS 1713. Introduction to Yiddish Culture and Language.
Yiddish was the language spoken by most Jews in Eastern Europe and the countries to which they emigrated (including the U.S., England, South Africa, South American countries, and Israel) from the nineteenth century until after the Holocaust. It was the basis for a transnational Jewish culture and has influenced the development of Yiddish language and literature, and it played a central role in modern Jewish political life. We will explore the history of Yiddish culture and the development of the Yiddish press, literature, and cinema. The connection between Yiddish and modern Jewish politics will also be discussed. Students in this course will also have the opportunity to develop a basic knowledge of the Yiddish language.
Fall JUDS1713 S01 16458 Th 4:00-5:30(04) (R. Rojanski)

Section numbers vary by instructor. Please see Banner for the correct course reference number (CRN) to use when registering for this course.

JUDS 1975. Honors Thesis Semester I.
First of two semesters working with a faculty member in the Program in Judaic Studies to complete an honors thesis. Instructor permission required.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
JUDS 1976. Honors Thesis Semester II.
Second of two semesters working with a faculty member in the Program in Judaic Studies to complete an honors thesis. Instructor permission required.

JUDS 2450. Exchange Scholar Program.

Center for Language Studies
American Sign Language

SIGN 0100. American Sign Language I, II.
An immersive approach using authentic communication inside and outside of the classroom will be used to develop introductory communicative skills in American Sign Language. Authentic materials from diverse sources will provide an overview of the American Deaf community. Basic literacy skills will be taught.

This is the first half of a year-long course whose first semester grade is normally a temporary one. Neither semester may be elected independently without special written permission. The final grade at the end of the course work in SIGN 0200 covers the entire year and is recorded as the final grade for both semesters.

Fall SIGN0100 S01 16378 MWF 11:00-11:50(07) (T. Riker)
Fall SIGN0100 S02 16379 MWF 12:00-12:50(07) (H. Nowicki)
Fall SIGN0100 S03 16380 MWF 2:00-2:50(07) (H. Nowicki)

SIGN 0300. American Sign Language III.
This course will use an immersive approach incorporating authentic communication to develop intermediate communicative skills in American Sign Language. Through authentic materials from diverse sources, students will engage in classroom discussion and produce media to explore Deaf cultural topics related to family dynamics, language, and, education. Prerequisite SIGN 0200 or placement interview. Additional 1 hour session held through Zoom every week to discuss cultural topics.

Additional 1 hour session held through Zoom every week to discuss cultural topics.

Fall SIGN0300 S01 16957 MWF 12:00-12:50(03) (T. Riker)
Fall SIGN0300 S02 16958 MWF 1:00-1:50(03) (H. Nowicki)

SIGN 0500. American Sign Language V.
This course increases American Sign Language skills by introducing advanced vocabulary and grammar in various registers and settings, including informal and formal discussions, presentations, and storytelling. Through authentic materials from diverse sources, students will explore American Sign Language literature and oral traditions. Prerequisite SIGN 0400 or placement interview. Additional 1 hour session held through Zoom every week to discuss cultural topics.

Fall SIGN0500 S01 16959 MWF 2:00-2:50(01) (T. Riker)

Independent study in an area of special interest to the student, with close guidance by a member of the faculty, and leading to a major paper/project. Required of candidates for honors, and recommended for third year students. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course. Prerequisite: SIGN 0500 or instructor permission.

Arabic

ARAB 0100. First-Year Arabic.
Builds basic listening, speaking, reading, and writing skills, introducing the Arabic language in its cultural environment. Four contact hours per week, with an emphasis on grammar and communication, plus written, audio, and video assignments outside of class. This is the first half of a two-semester sequence course whose first semester grade is normally a temporary one. Neither semester may be elected independently without special written permission. The final grade at the end of the course work in ARAB 0200 covers the entire year and is recorded as the final grade for both semesters. If course is full, please request an override. Enrollment limited to 18.

Fall ARAB0100 S01 16373 Thh 10:30-11:50(11) (A. Hassan)
Fall ARAB0100 S01 16373 Thh 11:00-11:50(11) (A. Hassan)
Fall ARAB0100 S02 16374 MW 1:00-1:50(11) (A. Hassan)
Fall ARAB0100 S02 16374 MW 10:00-10:50(11) (A. Hassan)

ARAB 0200. First-Year Arabic.
Builds listening, speaking, reading, and writing skills, at the low intermediate level of Arabic proficiency. Five contact hours per week, with an emphasis on grammar and communication, plus written, audio, and video assignments outside of class. This is the second half of a year-long course. Students must have taken ARAB 0100 to receive credit for this course. If ARAB 0100 was taken for credit then this course must be taken for credit; if taken as an audit, this course must also be taken as an audit. Exceptions to this policy must be approved by both the academic department and the Committee on Academic Standing. Enrollment limited to 18.

Fall ARAB0200 S03 16375 Thh 10:30-11:50(09) (A. Hassan)
Fall ARAB0200 S03 16375 MW 11:00-11:50(09) (A. Hassan)
Fall ARAB0200 S03 16375 MW 12:00-12:50(09) (A. Hassan)
Fall ARAB0200 S03 16375 Thh 1:00-2:00(08) (A. Hassan)
Fall ARAB0200 S03 16375 Thh 9:00-10:20(05) (A. Hassan)
Fall ARAB0200 S03 16375 Thh 10:00-10:50(05) (A. Hassan)

ARAB 0300. Second-Year Arabic.
Develops listening, speaking, reading and writing skills at the intermediate level of language proficiency through extensive use of various texts and multimedia. Promotes better understanding of Arabic cultural traditions. Five contact hours weekly, plus written, audio, and video assignments outside of class. Prerequisite: ARAB 0200. This is the second half of a year-long course. Neither semester may be elected independently without special written permission. The final grade at the end of the course work in ARAB 0400 covers the entire year and is recorded as the final grade for both semesters.

Fall ARAB0300 S01 16377 Thh 10:30-11:50(04) (M. Faiza)
Fall ARAB0300 S01 16377 MW 11:00-11:50(04) (M. Faiza)
Fall ARAB0300 S02 16378 MW 1:00-1:50(04) (M. Faiza)
Fall ARAB0300 S02 16378 Thh 1:00-2:00(04) (M. Faiza)

ARAB 0400. Second-Year Arabic.
Develops listening, speaking, reading and writing skills at the intermediate level of language proficiency through extensive use of various texts and multimedia. Promotes better understanding of Arabic cultural traditions. Five contact hours weekly, plus written, audio, and video assignments outside of class. Prerequisite: ARAB 0300. This is the second half of a year-long course. Students must have taken ARAB 0300 to receive credit for this course.

Fall ARAB0400 S01 16379 Thh 10:30-11:50(09) (M. Faiza)
Fall ARAB0400 S01 16379 MW 11:00-11:50(09) (M. Faiza)
Fall ARAB0400 S02 16380 MW 1:00-1:50(09) (M. Faiza)
Fall ARAB0400 S02 16380 Thh 1:00-2:00(09) (M. Faiza)

ARAB 0500. Third-Year Arabic.
Offers comprehensive training in listening, speaking, reading, and writing, with grammar review as needed. Broadens students' perspective of Arabic culture using selections from the classical and modern traditions of Arabic writing and various art forms. Four contact hours weekly. Prerequisite: ARAB 0400.

Fall ARAB0500 S01 16953 MTWth 12:00-12:50(03) (E. Belmont Flores)
Fall ARAB0500 S02 17123 MTWth 10:00-10:50(03) (E. Belmont Flores)

ARAB 0600. Third-Year Arabic.
Offers comprehensive training in listening, speaking, reading, and writing with grammar review as needed. Broadens students' perspective of Arabic culture with selections from the classical and modern traditions of Arabic writing and various art forms. Four contact hours weekly. Prerequisite: ARAB 0500.

Spr ARAB0600 S01 25521 MTWth 12:00-12:50 (M. Faiza)

This integrated-skill language and culture course stresses oral interaction in class. We will view and discuss films from the Arab World as vehicles to understanding the cultural and linguistic diversity of Arabic-speaking countries. Our selection of films will focus on issues of economic inequality, family dynamics, and gender, as well as the effects of war and immigration on society. By engaging the complex representation of
For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
LANG 0250S. Beginning Swahili II.
Students successfully completing the second semester of this beginner's course in Swahili Language and Culture will be able to communicate in Swahili in a culturally-appropriate way. Students will practice skills in an integrated fashion in order to reach an intermediate low level of proficiency in speaking, reading, listening, and writing. Course content includes language, culture, history, music and children's literature. Heritage speakers may place into the course depending on their language level. Like English, Swahili is not a tonal language, and considered to be one of the easier African languages to learn. Knowledge of Swahili will assist you in order to study and work in Africa (Kenya and Tanzania) and to be able to engage with Swahili speakers in other parts of the world.

LANG 0750. Identity and Languages in Contemporary Africa.
When you think of contemporary Africa, what's the first thing that comes to mind? Is it a megacity? Africa is the most rapidly urbanizing continent in the world. It is home to three of the world's megacities (populations of 10 million). It is also home to one-third of the world's languages and over 2000 languages are spoken in Africa. What is daily life within them like, and what kinds of linguistic, cultural, economic, and political roles do they play in our world? In this interdisciplinary class, we'll look for answers to these questions in articles and mixed media, including Instagram posts, op-eds, TED Talks, YouTube music videos, sci-fi short stories, documentary photography, and more. What we'll find might surprise you. Along the way, we'll also do some critical reflection and self-examination: what shapes the ways we think about Africa and why?

LANG 0760. Language and Film Discourse in Africa.
This course will focus largely on Nollywood films (the Nigerian film industry), one of the biggest film industries in the world. We will watch the films Ẹ̀ẹ̀dà (Duplicate) 1-2 (2010) and Alágbo Òru (Midnight Herbalist) 1-4 (2012) to examine the language used in films to express speech acts (that is, an utterance considered an action) such as greetings, apologies, refusals, requests, compliments, and advice. We will furthermore analyze the linguistic, contextual, and social phenomena in African films made in African languages within the past twenty years. In addition, we will also consider the pragmatics (that is, language use in context) of power relations, provers, political discourse, interjections, and medical discourse.

LANG 0800. Theory and Practice of Intercultural Competence.
What is intercultural competence? What are its benefits in our globalized society? Through readings, discussions, videos and visuals students will learn the theory behind intercultural competence as well as practical aspects about gaining and honing the skills needed for IC. Students will experience how the implementation of IC enhances study, work and internships carried out both globally and domestically. Limited to 40 students. This course is open to all students. It is also the foundational course required of students participating in Brown’s Certificate of Intercultural Competence.

LANG 1800. Capstone Seminar in Intercultural Competence.
This course serves as the final capstone course for the Certificate in Intercultural Competence. Students will connect the skills, attitudes and knowledge developed throughout the course work and experiential learning component of the Certificate to their future goals. Students will work on synthesizing all components of the Certificate through weekly discussions, simulations and case studies. Research topics and group discussions are designed to continue conversations that extend the work that began in the required foundation course LANG0800 The Theory and Practice of Intercultural Competence. Students will prepare a multi-modal presentation, and have the option of presenting a portfolio in a digital format, a podcast or a video, of the work they have completed along their journey towards intercultural competence. Students will participate in a public presentation session in order to share their work and engage the wider language-learning community on-campus.

LANG 1900. Independent Study in Languages.
This course will meet the needs of students who are not studying one of the languages offered by the CLS faculty. Beginner, Intermediate or Advanced integrated skill course focusing on specific reading and writing topics selected by the faculty advisor and the student. Enrollment limited to 10.

LANG 2450. Exchange Scholar Program.
Spr LANG2450 S01 24885 Arranged "To Be Arranged"

LANG 2900. Seminar in Language Pedagogy and Second Language Acquisition.
This course prepares graduate students in modern languages to understand theories of language pedagogy and second language acquisition. Students will gain both practical knowledge to incorporate into everyday teaching as well as an understanding of which approaches to teaching might be more effective than others in various classroom contexts and why. Undergraduates may enroll with permission of the instructor.

Spr LANG2900 S01 25506 Th 9:30-12:00(09) (J. Sokolosky)

LANG XLIST. Courses of Interest to Students pursuing the Certificate in Intercultural Competence.

Fall 2023
The following courses may count as Area Perspective Courses for the Certificate in Intercultural Competence (CIC). Any course in a language department that is above and beyond the two required for the certificate may also count as the area perspectives course. Courses in English or in the target language may count toward this elective. This list only includes courses offered this semester. New courses may be added upon consultation with a CIC advisor. Please refer to the certificate website for more information.

Anthropology
ANTH 1150 Middle East in Anthropological Perspective

Cognitive, Linguistic, Psychological Sciences
CLPS 0300 Introduction to Linguistics
CLPS 1370 Pragmatics

Education
EDUC 1665 Reimagining Humanities Education: Curriculum Development for Secondary Schools

History
HIST 0233 Colonial Latin America
HIST 0552A A Textile History of Atlantic Slavery
HIST 0558C Latinx Social Movement History
HIST 0577B The US-Mexico Border and Borderlands: A Bilingual English-Spanish Seminar
HIST 0623C Americans in the USSR
HIST 1360 Amazonia from the Prehuman to the Present
HIST 1620 Resisting Empire: Gandhi and the Making of Modern South Asia
HIST 1968A Approaches to the Middle East

International and Public Affairs
IAPA 1401 Economic Development in Latin America
IAPA 1801 Science and Technology Policy in the Global South
IAPA 1802M Rwanda Past and Present

Music
MUSC 0640 Ghanaian Drumming and Dancing Ensemble
MUSC 0642 World Music Ensemble

Political Science
POLS 1440 Security, Governance and Development in Africa

Religious Studies
RELS 0090M Religion Violence and Media
RELS 0100 Buddhist Thought, Practice, and Society
RELS 0140 Food, Religion and Politics in South Asia
RELS 0145 Karma, Rebirth and Liberation: Life and Death in South Asian Religions

Slavic Studies
CZCH 0320A Czech Animation: Cross-cultural Dialogs

Turkish
TKSH 0720A Understanding Modern Turkey Through Film and Literature

Persian
PRSN 0100. Basic Persian.
Fast-paced course for beginners. Course stresses acquisition of Persian alphabet and basic grammatical patterns, beginning levels of speaking, listening, reading, and writing. Strong emphasis on the links between language and culture. One additional hour in consultation with instructor and enrolled students.
Courses @ Brown University 2023-2024

Course Descriptions

PRSN 0200. Basic Persian.
Fast-paced course for beginners. Course stresses acquisition of Persian alphabet and basic grammatical patterns, beginning levels of speaking, listening, reading, and writing. Strong emphasis on the links between language and culture.
This is the second half of a year-long course. Students must have taken PRSN 0100 to receive credit for this course. If PRSN 0100 was taken for credit then this course must be taken for credit; if taken as an audit, this course must also be taken as an audit. Exceptions to this policy must be approved by both the academic department and the Committee on Academic Standing.
One additional hour in consultation with instructor and enrolled students.
Fall PRSN0100 S01 16441 T 9:00-9:50(09) (M. Quay)
Fall PRSN0100 S01 16441 MWF 9:00-9:50(09) (M. Quay)

PRSN 0300. Intermediate Persian Language and Culture.
Expands students' proficiency in modern Persian language and culture; develops listening, speaking, reading and writing skills at the intermediate level through various texts and multimedia. Prerequisite: PRSN 0200. One additional hour in consultation with instructor and enrolled students.
Fall PRSN0300 S01 16961 T 2:00-2:50(01) (M. Quay)
Fall PRSN0300 S01 16961 MWF 2:00-2:50(01) (M. Quay)

Expands students' proficiency in modern Persian language and culture; develops listening, speaking, reading and writing skills at the intermediate level through various texts and multimedia. Prerequisite: PRSN 0300. One additional hour in consultation with instructor and enrolled students.
Spr PRSN0400 S01 25511 T 2:00-2:50(07) (M. Quay)
Spr PRSN0400 S01 25511 MWF 2:00-2:50(07) (M. Quay)

PRSN 0500. Advanced Persian Language and Culture I.
For students who have completed PRSN 0400 or have acquired language skills above the intermediate level through contact with Persian in other ways. The main goal of this course is to improve speaking, listening, reading and writing skills and promote exposure to the culture. It will enable students to expand their knowledge of the language by studying samples of modern and classical Persian literature in order to advance toward mastery of contemporary literature. The course will motivate students to communicate both in written and spoken Persian by utilizing the adequate grammatical order and correct vocabulary. Prerequisite: PRSN 0400.
Fall PRSN0500 S01 17105 T 12:00-12:50(15) (M. Quay)
Fall PRSN0500 S01 17105 MWF 12:00-12:50(15) (M. Quay)

PRSN 2890. Reading and Research.
Work with individual students in connection with special readings, problems of research, or preparation of theses. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

Turkish

TKSH 0100. Introduction to Turkish Language and Culture I.
This is a proficiency oriented introductory course to Turkish Language and Culture. It adopts and integrated skills approach and is designed for students with little or no prior knowledge of Turkish. The course combines an emphasis on the development of communicative competences with an understanding of language structures and grammar as well as insights into Modern Turkish society and culture. The aim is to introduce students to basic linguistic structures and develop the ability to comprehend and produce text, as well as to speak and understand speech, in a variety of contexts and registers. Graduate students should contact the instructor to register.
Fall TKSH0100 S01 16384 Th 2:00-2:50(01) (E. Ozdemir)
Fall TKSH0100 S01 16384 MWF 2:00-2:50(01) (E. Ozdemir)

TKSH 0200. Introduction to Turkish.
This is the second semester of a proficiency oriented introductory course to Turkish Language and Culture. It adopts an integrated skills approach and is designed for students who have taken Turkish 0100 or have placed into the class after consultation with the instructor or a placement exam. The course combines an emphasis on the development of communicative competences with an understanding of language structures and grammar as well as insights into Modern Turkish society and culture.
Spr TKSH0200 S01 25515 Th 12:00-12:50(01) (E. Ozdemir)
Spr TKSH0200 S01 25515 MWF 12:00-12:50(01) (E. Ozdemir)

TKSH 0300. Intermediate Turkish.
This online course focuses on both communicative skills and the language structures of modern Turkish. Students will learn about Turkish society, culture, and traditions. Course materials include Turkish films, podcasts, radio programs, as well as authentic and adapted Turkish written texts. New students can place into the course depending on their language level. Class will be scheduled for three times a week synchronously in consultation with students and the instructor. There will be one hour of asynchronous instruction.
Fall TKSH0300 S01 16960 Th 11:00-11:50(16) (E. Ozdemir)
Fall TKSH0300 S01 16960 MWF 11:00-11:50(16) (E. Ozdemir)

TKSH 0400. Intermediate Turkish II.
TKSH 0400 is designed for students who have taken TKSH 0300 and already studied Turkish language to develop proficiency at an advanced level. New students can place into it, after special arrangements with the instructor. The course places equal emphasis on further developing four skills (reading, listening, speaking, and writing) at an advanced proficiency level as well as advanced compound and subordinate structures in grammar. It combines an emphasis on the development of communication skills with an understanding of the language and insights into Modern Turkish society and culture. There will be one additional hour TBD in consultation with the instructor and students.
Spr TKSH0400 S01 25518 Th 11:00-11:50(04) (E. Ozdemir)
Spr TKSH0400 S01 25518 MWF 11:00-11:50(04) (E. Ozdemir)

TKSH 0720A. Understanding Modern Turkey Through Film and Literature.
This course will introduce students to modern Turkey and offer a wide range of perspectives on the society and its culture. Each week, we will focus on a single theme such as: family and gender; social classes and their interaction with each other; Istanbul and its neighborhoods; Turkey’s role within Europe; ethnic identities and their recognition by Turkish society; Turkish media and entertainment; modernism and political Islam; important events in the very recent history of Turkey including the Hrant Dink assassination, terror attacks, and the 2016 coup d’état attempt; education and academic freedom; modern literature; specific cultural practices and rituals; foreigners’ perspectives on Turkish society; and modern Turkish sensory experiences including music and cuisine.
Fall TKSH0720A S01 17103 MWF 1:00-1:50(05) (E. Ozdemir)

Yoruba

YORU 0100. Introduction to Yoruba I.
Students successfully completing this beginner’s course in Yoruba Language and Culture will have the facility to speak in proper tones and patterns and to understand Yoruba used in common everyday situations. Students will practice skills in an integrated fashion in order to reach some proficiency in speaking, reading, listening, and writing. Course content includes Yoruba culture, literature, theater and music. Heritage speakers may place into the course depending on their language level.
Fall YORU0100 S01 16385 MWF 2:00-2:50(01) (V. Alabi)
Fall YORU0100 S01 16385 T 12:00-12:50(01) (V. Alabi)

YORU 0200. Introduction to Yoruba II.
Students successfully completing this beginner’s course in Yoruba Language and Culture will have the facility to speak in proper tones and patterns and to understand Yoruba used in common everyday situations. Students will practice skills in an integrated fashion in order to reach some proficiency in speaking, reading, listening, and writing. Course content includes Yoruba culture, literature, theater and music. Heritage speakers may place into the course depending on their language level.
Spr YORU0200 S01 25513 MWF 2:00-2:50(07) (V. Alabi)
Spr YORU0200 S01 25513 T 12:00-12:50(07) (V. Alabi)
YORU 0300. Intermediate Yoruba I
Students will learn to speak, read and write Yorùbá at an intermediate level. Classroom time focuses on speaking; homework includes work with the textbook and vocabulary learning. Texts include a variety of materials from BBC including films and audio materials. Learners will also be introduced to some current affairs, social, artistic and cultural events and issues in Nigeria. Learners will work on a paper in Yorùbá about their exposure to the language and culture as a final project.

Fall YORU0300 S01 16386 Th 12:00-12:50(08) (V. Alabi)

YORU 0400. Intermediate Yoruba II.
This intermediate course expands on the work done in YORU0300. Focus continues to be on speaking while also learning to write longer texts in Yorùbá with tones. Students will become more familiar with the tradition of Yorùbá proverbs. Themes of the course include aspects of African culture such as education, fashion, music, business, film, and politics.

Spr YORU0400 S01 25914 MWF 1:00-1:50(06) (V. Alabi)

Latin American and Caribbean Studies

LACA 15040. Re-thinking Latin American Geographies through Social Mapping.
Maps are important tools for our daily activities and spatial imaginaries; however, the ways in which official and dominant Western maps organized the information about the world occludes other ways of knowing territories. How are these “other” geographies represented? How are maps re-designed and appropriated to visualize different spatialities? In this course, students will be introduced to key themes and design practices in social cartography in Latin America. These reflect on collective or individual mapping practices to represent and increase the visibility of social issues and ways of knowing and being in this region. Intermediate knowledge of Spanish is required for conducting readings and class-discussion. This course is appropriate for students who have taken AP Spanish, heritage speakers, and students who have taken or placed in 500-level Spanish language classes at Brown. Previous knowledge of maps not required.

Fall LACA15040S S01 18719 TTh 1:00-2:20(06) 'To Be Arranged'

LACA 1900. Preparation for Honors and Capstone Projects on Latin American and Caribbean Topics.
This workshop is designed for junior and seniors in any concentration who are researching and writing about Latin America and the Caribbean. It will help students to enhance their research and organization skills, refine their research or creative projects, and develop or complete a Capstone Project (e.g. honors thesis, Capstone Project, substantial research paper).

Fall LACA1900 S01 18699 W 3:00-5:30(10) 'To Be Arranged'

For Latin American + Caribbean Studies concentrators writing senior projects or honors theses.

For Latin American + Caribbean Studies concentrators writing senior projects or honors theses.

For upper-division students interested in pursuing topics in Latin American and Caribbean Studies not currently taught in the Brown curriculum.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
vision; creating structures that best suit your content and intentions. In
class, we will review your writing, lookbooks and group presentations;
view and discuss short films; discuss readings; and do writing exercises.
Assigned readings include theory, essays, treatments and screenplays.
Films will also be assigned for viewing outside of class. This course is
limited to undergraduates. S/N. Enrollment limited to 17. Spr
LITR0110E  S01  26159  M  3:00-5:30(13)  (L. Coella)

Project-oriented workshop for writers and language artists who want to
integrate practices from other disciplines as they devise, compose, and
make their work. Those with little or no prior interdisciplinary or digital
media experience are welcome. Learning is through making, reading,
discussion, group projects, collaboration, and research presentations
Enrollment limited to 17. S/N.
Fall LITR0110H  S01  17610  W  5:45-8:15PM(10)  "To Be Arranged"
Spr LITR0110H  S01  25962  W  5:45-8:15PM  "To Be Arranged"

LITR 0210A. Fiction Writing II.
Topics often include stylistic matters related to tone and point of view, and
structural matters like controlling switches in time. See general
course description above for course entry procedures for all intermediate
workshops. Enrollment limited to 17. Instructor permission required. S/N.
Fall LITR0210A  S01  17611  M  5:45-8:15PM(11)  "To Be Arranged"
Fall LITR0210A  S02  17612  T  4:00-6:30(11)  "To Be Arranged"
Spr LITR0210A  S01  25963  T  4:00-6:30(16)  "To Be Arranged"

LITR 0210B. Poetry Writing II.
Emphasis is placed on verse strategies, meter, rhythm, imagery and rhyme.
Writing includes frequent exercises in various poetic traditions.
See general course description above for course entry procedures for all intermediate workshops. Written permission required. S/N.
Fall LITR0210B  S01  17613  W  5:45-8:15PM(10)  "To Be Arranged"
Spr LITR0210B  S01  25955  T  4:00-6:30(16)  "To Be Arranged"

LITR 0710. Writers on Writing Seminar.
Offers students an introduction to the study of literature (including works
from more than one genre) with special attention given to a writer's way
of reading. This course will include visits to the course by contemporary
writers who will read to the class and talk about their work. Enrollment
limited to 19 first year students.
Fall LITR0710  S01  16472  Th  4:00-6:30(04)  "To Be Arranged"
Spr LITR0710  S01  25125  Th  4:00-6:30(17)  (L. Hunt)

LITR 1010A. Advanced Poetry.
Course work includes a body of exercises, close reading of poetry,
workshop conversations and conferences. See general course description
above for course entry procedures for all advanced workshops. Instructor
permission required. S/N.
Fall LITR1010A  S01  16292  W  3:00-5:30(10)  (S. Nakayasu)
Spr LITR1010B  S01  25967  M  3:00-5:30(13)  (P. Nelson)

LITR 1010E. Advanced Screenwriting.
Screenwriting for feature-length and episodic works. Participants should
already have experience writing short screenplays and be prepared to
develop a longer piece. See the Literary Arts Department website for
course entry procedures for all advanced workshops. Work sample and
instructor permission required. S/N.
Fall LITR1010E  S01  17883  M  3:00-5:30(03)  (L. Coella)

LITR 1010F. Advanced Translation.
Translation draws from many fields including linguistics, comparative
literature, literary studies, anthropology, cultural studies, cognitive science,
and creative writing. While we consider different theories and approaches
to translation, students will embark on a semester-length translation project.
Expect to read and energetically discuss readings, to give a
presentation on your ongoing translation, and to write a critical essay
and numerous translation exercises on your way toward completing a
manuscript in translation (the length of which will be determined by
the work itself and an agreement between professor and student). Enrollment
limited to 12. Instructor permission required. S/N.
Spr LITR1010F  S01  25004  M  3:00-5:30(13)  (S. Nakayasu)

Project-oriented workshop for writers and language artists working to
integrate practices from other disciplines as they devise, compose,
and make their work. Recommended for students with some prior
interdisciplinary practice or digital media experience. Learning is through making,
reading, discussion, group projects, collaboration, and research
presentations. Enrollment limited to 12. S/N.
Fall LITR1010H  S01  16473  M  3:00-5:30(03)  (T. Field)

LITR 1110N. Workshop for Potential Literature.
A novel without the letter "E", 100,000-billion sonnets by permutation and
texts that take the shape of a Mobius-Srip-- all this time and more, as
workshop participants try their hands in writing in response to problems created by and inspired by a group of writers engaged in strange
constraints and procedures. Instructor permission required. S/N.
Fall LITR1110N  S01  16471  M  3:00-5:30(03)  (P. Nelson)

This intensive production course is designed for students who have
some proficiency in screenwriting or poetry and little to no filmmaking
experience. The course aims to serve as a two-way bridge, opening
screenwriting and poetry students up to the possibility of making films,
while also investigating how acting and directing experiences can inform
future writing projects. We will experiment with a variety of filmmaking
techniques and tools to investigate the symbiotic relationships between writing and
visual language. The equal importance of sound in the film viewing
experience will also be explored, with students learning techniques for
recording and editing multitrack soundtracks. Guests filmmakers will join us
and respond to student work.
Fall LITR1110U  S01  17880  M  10:30-12:50  (L. Coella)

LITR 1110V. Script to Screen: Scene Work.
This intensive script development and directing workshop is designed
for students who have some proficiency in screenwriting, and little to no
directing experience. Basic shooting and editing skills are helpful, or
will be learned in the first half of the semester. The course aims to serve as
a two-way bridge, opening screenwriting students up to the possibility
of directing their work, while also investigating how acting and directing
experiences, and workshops material with actors, can inform future
screenwriting. Activities include learning acting and directing techniques,
scene analysis, writing and revising scenes, casting and working with
actors, creating a scene through improvisation, and filming practice
versions of scenes. Guests will join us for workshops and final reviews.
Spr LITR1110V  S01  26160  M  10:30-12:50  (L. Coella)

LITR 1150T. Foreign Home.
Project-centered workshop for exploration beyond one's "home" genre,
whether in video, poetry, fiction, music, performance or visual arts.
Contemporary and art-historical interdisciplinary works will ground our
investigation into the tension between expertise and "beginner's mind".
Collaborative and individual work expected. Instructor's permission
required.
Spr LITR1150T  S01  25968  W  3:00-5:30(10)  (T. Field)

LITR 1151Q. Great Adventure.
This hybrid seminar/prose workshop will take you to Antarctica, Japan,
France, Cambodia, outer space—and to other places too. But much of
your writing will be about yourself. Your cross-genre wandering through
novels, essays, and indefinable hybrid works by a fascinating list of
thinkers and stylists, will lead to questions about your own sense of
place, belonging, contextual otherness, and the pleasures, powers and
implications of your gaze. You'll search for answers through the medium of
impersonal description and practice.
Fall LITR1151Q  S01  18117  W  3:00-5:30(10)  (C. Chanter)

LITR 1151Y. Against Genre.
An experimental workshop in creative writing hybridized with other forms—
not only literary work that does not adhere to traditional genres, like prose
poetry, but writing that includes video, or music, or collage, and which
includes practices like appropriation and non-traditional distribution.
Including weekly reading assignments (Kenneth Goldsmith, Paul Metcalf,
W. G. Sebald, Robert Smithson, Vito Acconci, the Surrealists, Public
Enemy/The Bomb Squad, Shelley Jackson, Thalia Field, etc.), weekly
writing prompts, one oral presentation.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
LITR 1152Q. Land Arts.
This ekphrastic workshop/seminar overflows the traditional definition of Land Art to encompass a much greater range, including contemporary modes of ecologically-oriented art. The class will be broken down into five thematic sections: 1) interventional land art, in which the earth is sculpted, excavated, or augmented; 2) ephemeral land art; in which elements from the landscape are worked into impermanent works; 3) kinetic land art, in which artists participate in the land, rather than making an object of or from it; 4) growing land art, in which plants and trees are grown into constantly changing and yet permanent forms; and 5) ecologically-oriented art, in which a variety of materials and practices are engaged to underscore contemporary issues of ecological importance.

Spr LITR1151Y S01 25005 W 3:00-5:30(10) (S. Nakayasu)

LITR 1152T. Memory's Imagination
Taking inspiration from the autobiographical work of newly minted Nobel Laureate, Annie Ernaux, we will examine and produce works of fiction, creative narrative non-fiction and hybrid texts that cleave, in that good old double-sense, to personal experience and/or personal works. Works by Marcel Proust, Virginia Woolf, James Baldwin, Michael Ondaatje, John Keene, Jessica Au and Svetlana Alexievich will be on the menu to inform and inspire. Students can expect a substantial weekly reading load and should come to each class prepared to discuss the assigned texts and linked creative assignments.

Fall LITR1152T S01 17614 W 3:00-5:30(10) (L. Hunt)

LITR 1200. Writers on Writing
Offers students an introduction to the study of literature (including works from more than one genre) with special attention given to a writer's way of reading. This course will include visits to the course by contemporary writers, who will read to the class and talk about their work. Enrollment is limited to 30 students.

Fall LITR1200 S01 16470 Th 4:00-6:30(04) "To Be Arranged"
Spr LITR1200 S01 25966 Th 4:00-6:30(17) (E. Sikelianos)

LITR 1230E. Form and Theory of Fiction
"Form and Theory of Fiction" offers an exploration of narrative theories directed particularly at creative writers, in conjunction with a hands-on examination of contemporary fictional narrative practices. Theoretical readings include historical essays on fiction and work by Gaston Bachelard, Mieke Bal, Gilles Deleuze, and others. Enrollment limited to 20.

Fall LITR1230E S01 18296 M 3:00-5:30(03) (L. Hunt)

LITR 1300. Independent Study in Reading, Research, and Writing About Literature
Provides advanced students with an opportunity to pursue tutorial instruction oriented toward a literary research topic.

LITR 1310. Independent Study in Creative Writing
Offers tutorial instruction oriented toward some significant work in progress by the student. Typically taken by honors or capstone candidates in the antepenultimate or penultimate semester. See instructor to seek permission during the semester before undertaking the course of study. One advanced-level workshop is prerequisite. S/NC.

LITR 1510. Honors Independent Study in Creative Writing
Provides tutorial instruction for students completing their theses or capstone projects. Typically taken by honors or capstone candidates in their final semester. See instructor to seek permission during the semester before undertaking the course of study. S/NC.

LITR 2010A. Graduate Fiction
Advanced practice of the art: a writing seminar, limited to graduate students in Literary Arts. Emphasis is placed on developing a better understanding of the creative process, strategies and forms. Written permission required. S/NC.

Fall LITR2010A S01 16469 W 11:55-2:25(08) (T. Field)
Spr LITR2010A S01 25123 W 11:55-2:25 (C. Channer)

LITR 2010B. Graduate Poetry
Advanced practice of the art: a writing seminar, limited to graduate students in Literary Arts. Emphasis is placed on developing a better understanding of the creative process, strategies and forms. Written permission required. S/NC.

Fall LITR2010B S01 16295 M 11:55-2:25(08) (M. Shenoda)

LITR 2230. Graduate Independent Study in Reading, Research, and Writing About Literature
Provides graduate students with an opportunity to pursue tutorial instruction oriented toward a literary research topic.

LITR 2310. Graduate Independent Studies in Literary Writing
Offers tutorial instruction oriented toward some significant work in progress by the graduate student. S/NC.

LITR 2410. Graduate Thesis Independent Study in Literary Writing
Provides tutorial instruction for graduate students completing their graduate creative theses. Typically taken in the final semester. See instructor to seek permission during the semester before undertaking the course of study. S/NC.

LITR 2450. Exchange Scholar Program

LITR 2710. Literary Arts Pedagogy in Practice
The Pedagogy in Practice Seminar examines ideas about teaching in a literary arts/creative writing environment. The pros and cons of the "workshop"-style will be discussed alongside alternative models, and general topics of exploration will include: creative process pedagogy, writing-to-learn, multi-genre approaches, uses of readings/research, and general classroom management. This is a hands-on forum to provide guidance on how to build an inclusive, pedagogically effective meeting space. A special emphasis will be on preparing instructors to feel confident and explore a range of creative process issues. There will be opportunities to develop personal writing, especially in response to student work.

Fall LITR2710 S01 16466 Th 11:55-2:25 (C. Channer)

LITR 2780. Graduate Independent Study in Professional Development
This half-credit course is for a Literary Arts graduate student not enrolled in a pedagogy seminar. Through this independent study, the graduate student will work with a faculty advisor to prepare for the post-MFA experience. This may include a focus on aspects of teaching, but may also focus on related professional pursuits, such as working in literary agency, publishing and professional writing.

Mathematics

MATH 0050. Analytic Geometry and Calculus
MATH 0050 and 0060 provide a slower-paced introduction to calculus for students who require additional preparation. Presents the same calculus topics as MATH 0090, together with a review of the necessary precalculus topics. Students successfully completing this sequence are prepared for MATH 0100. S/NC only.

Fall MATH0050 S01 17134 TTh 2:30-3:50(12) "To Be Arranged"

MATH 0060. Analytic Geometry and Calculus
A slower-paced introduction to calculus for students who require additional preparation. Presents the same calculus topics as MATH 0090, together with a review of the necessary precalculus topics. Students successfully completing this sequence are prepared for MATH 0100. Prerequisite: MATH 0050 or written permission. May not be taken for credit in addition to MATH 0070 or MATH 0090. S/NC only.

Spr MATH0060 S01 25526 TTh 2:30-3:50(11) "To Be Arranged"

MATH 0081. Math Teaching Fellows Program
The Math Teaching Fellows Program is a semester-long certificate program that provides UTAs with the skills and knowledge required to be an effective UTA in the Math Department. Admission into the program is by application only; participants will hold a UTA appointment in a Mathematics course approved by the Teaching Fellows Coordinators and must therefore be eligible for student employment at Brown during the term.

Fall MATH0081 S01 18866 Arranged (J. Kostiku)

MATH 0090. Single Variable Calculus, Part I
An intensive course in calculus of one variable including limits, differentiation, maxima and minima, the chain rule, rational functions, trigonometric functions, and exponential functions. Introduction to integration with applications to area and volumes of revolution. MATH 0090 and MATH 0100 or the equivalent are recommended for all students intending to concentrate in the sciences or mathematics. May not be taken for credit in addition to MATH 0060 or MATH 0070. S/NC only.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
MATH 010. Single Variable Calculus, Part II.
A continuation of the material of MATH 90 including further development of techniques of integration. Other topics covered are infinite series, power series, Taylor's formula, polar coordinates, parametric equations, introduction to differential equations, and numerical methods. MATH 90 and 100 or the equivalent are recommended for all students intending to concentrate in mathematics or the sciences. MATH 100 may not be taken in addition to MATH 170 or MATH 190.

Fall MATH100 S02 17152 Arranged (Y. Hsu)
Spr MATH100 S01 25534 MWF 9:00-9:50(02) 'To Be Arranged'

MATH 0180. Multivariable Calculus.
Three-dimensional analytic geometry. Differential and integral calculus of functions of two or three variables: partial derivatives, multiple integrals, Green's Theorem, Stokes' theorem, and the divergence theorem. Prerequisite: MATH 100, MATH 170, or MATH 190, or advanced placement or written permission. [MATH 180 may not be taken in addition to MATH 200 or MATH 550.]

Fall MATH180 S01 17167 MWF 11:00-11:50(11) (B. Vergara Biggio)
Fall MATH180 S02 17168 MWF 12:00-12:50(11) 'To Be Arranged'
Fall MATH180 S03 17169 MWF 1:00-1:50(11) 'To Be Arranged'
Spr MATH180 S01 25547 MWF 9:00-9:50(02) 'To Be Arranged'
Spr MATH180 S02 25548 MWF 11:00-11:50(04) (D. Katz)
Spr MATH180 S03 25549 MWF 12:00-12:50(01) 'To Be Arranged'

MATH 0190. Single Variable Calculus, Part II (Physics/Engineering).
This course, which covers roughly the same material and has the same prerequisites as MATH 100, is intended for students with a special interest in physics or engineering. The main topics are: applications and techniques of integration; sequences, series, and power series methods; parametric equations and polar coordinates; additional topics at instructor's discretion. MATH 190 may not be taken in addition to MATH 100 or MATH 170.

Fall MATH190 S01 17175 MWF 10:00-10:50(14) (J. Kostiuk)
Fall MATH190 S02 18233 TTh 2:30-3:50(12) (C. Daly)

MATH 0200. Multivariable Calculus (Physics/Engineering).
This course, which covers roughly the same material as MATH 180, is intended for students with a special interest in physics or engineering. The main topics are: geometry of three-dimensional space; partial derivatives, Lagrange multipliers; double, surface, and triple integrals; vector analysis; Stokes' theorem and the divergence theorem, with applications to electrostatics and fluid flow. Prerequisite: MATH 100, MATH 170, or MATH 190, or advanced placement or written permission. [MATH 200 may not be taken in addition to MATH 180 or MATH 350.]

Fall MATH200 S01 17178 MWF 9:00-9:50(11) 'To Be Arranged'
Fall MATH200 S02 17179 TTh 2:30-3:50(11) (Y. Hsu)
Fall MATH200 S03 17180 TTh 1:00-2:20(06) 'To Be Arranged'
Spr MATH200 S01 25554 MWF 9:00-9:50(02) 'To Be Arranged'
Spr MATH200 S02 25555 TTh 10:30-11:50(09) (Y. Hsu)
Spr MATH200 S03 25556 TTh 2:30-3:50(11) 'To Be Arranged'

MATH 0350. Multivariable Calculus With Theory.
This course provides a rigorous treatment of multivariable calculus. Topics covered include vector analysis, partial differentiation, multiple integration, line integrals, Green's theorem, Stokes' theorem, and the divergence theorem. MATH 0350 covers the same material as MATH 0180, but with more emphasis on theory and on understanding proofs. Prerequisites: MATH 0100, MATH 0170, or MATH 0190, or advanced placement or written permission. [MATH 0350 may not be taken in addition to MATH 0180 or MATH 0200.]

Fall MATH350 S01 17185 MWF 10:00-10:50(14) (C. Breiner)

MATH 0420. Introduction to Number Theory.
An overview of one of the most beautiful areas of mathematics. Ideal for any student who wants a taste of mathematics outside of, or in addition to, the calculus sequence. Topics include: prime numbers, congruences, quadratic reciprocity, sums of squares, Diophantine equations, and, as time permits, such topics as cryptography and continued fractions. No prerequisites.
Spr MATH420 S01 25561 MWF 2:00-2:50(07) (J. Silverman)

MATH 0520. Linear Algebra.
A first course in linear algebra designed to develop students' problem solving skills, mathematical writing skills, and gain facility with the applications and theory of linear algebra. Topics will include: vector spaces, linear transformations, matrices, systems of linear equations, bases, eigenvalues, and additional topics at instructor's discretion. Applications may include differential equations, difference equations, least squares approximations, and models in economics and in biological and physical sciences. MATH 0520 or MATH 0540 is a prerequisite for all 100-level courses in Mathematics except MATH 1260 or MATH 1610. Recommended prerequisite: MATH 0100 or equivalent. May not be taken in addition to MATH 0540.

Fall MATH520 S01 17186 MWF 9:00-9:50(04) 'To Be Arranged'
Fall MATH520 S02 17187 MWF 11:00-11:50(04) (J. Kostiuk)
Fall MATH520 S03 17188 MWF 12:00-12:50(04) 'To Be Arranged'
Fall MATH520 S04 17189 TTh 1:00-2:20(04) 'To Be Arranged'
Fall MATH520 S05 17190 TTh 10:30-11:50(04) 'To Be Arranged'
Spr MATH520 S01 25584 MWF 9:00-9:50(02) 'To Be Arranged'
Spr MATH520 S02 25585 MWF 10:00-10:50(03) (J. Kostiuk)
Spr MATH520 S03 25586 MWF 12:00-12:50(01) 'To Be Arranged'
Spr MATH520 S04 25588 MWF 1:00-1:50(06) 'To Be Arranged'
Spr MATH520 S05 25589 MWF 2:00-2:50(07) 'To Be Arranged'
Spr MATH520 S06 25590 TTh 9:00-10:20(05) (M. Brandt)
Spr MATH520 S07 25591 TTh 10:30-11:50(09) 'To Be Arranged'

MATH 0540. Linear Algebra With Theory.
This course provides a rigorous introduction to the theory of linear algebra. Topics covered include: matrices, linear equations, determinants, and eigenvalues; vector spaces and linear transformations; inner products; Hermitian, orthogonal, and unitary matrices; and Jordan normal form. MATH 540 provides a more theoretical treatment of the topics in MATH 520, and students will have opportunities during the course to develop proof-writing skills. Recommended prerequisite: MATH 100, MATH 170, or MATH 190. [MATH 540 may not be taken in addition to MATH 520.]

Fall MATH540 S01 17191 MWF 1:00-1:50(08) (M. Brandt)
Spr MATH540 S01 25597 TTh 10:30-11:50(09) (C. Breiner)

MATH 0750. Introduction to Higher Mathematics.
This year-long class will expose students to six fundamental areas of mathematics. It will be team taught by six members of the faculty. Fall topics will include logic, combinatorics, and analysis. Spring topics will include number theory, algebra, and geometry. Approximately 4 weeks will be devoted to each topic.

Fall MATH0750 S01 17192 TTh 1:00-2:20(06) (J. Pipher)

MATH 1010. Analysis: Functions of One Variable.
Completeness properties of the real number system, topology of the real line. Proof of basic theorems in calculus, infinite series. Topics selected from ordinary differential equations. Fourier series, Gamma functions, and the topology of Euclidean plane and 3-space. Prerequisite: MATH 0180, 0200, or 0350. MATH 0520 or 0540 may be taken concurrently. Most students are advised to take MATH 1010 before MATH 1130.
Spr MATH1010 S01 25599 TTh 9:00-10:20(05) (G. Haziot)

MATH 1040. Fundamental Problems of Geometry.
This class discusses geometry from a modern perspective. Topics include hyperbolic, projective, conformal, and affine geometry, and various theorems and structures built out of them. Prerequisite: MA 0520, MA 0540, or permission of the instructor.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
MATH 1060. Differential Geometry. The study of curves and surfaces in 2- and 3-dimensional Euclidean space using the techniques of differential and integral calculus and linear algebra. Topics include curve and torsion of curves, Frenet-Serret frames, global properties of closed curves, intrinsic and extrinsic properties of surfaces, Gaussian curvature and mean curvature, geodesics, minimal surfaces, and the Gauss-Bonnet theorem.

MATH 110. Ordinary Differential Equations. Ordinary differential equations, including existence and uniqueness theorems and the theory of linear systems. Topics may also include stability theory, the study of singularities, and boundary value problems.

MATH 110. Partial Differential Equations. The wave equation, the heat equation, Laplace's equation, and other classical equations of mathematical physics and their generalizations, discussions of well-posedness problems. The method of characteristics, initial and boundary conditions, separation of variables, solutions in series of eigenfunctions, Fourier series, maximum principles, Green's identities and Green's functions.

MATH 1130. Functions of Several Variables. A course on calculus on manifolds. Included are differential forms, integration, and Stokes' formula on manifolds, with applications to geometrical and physical problems, the topology of Euclidean spaces, compactness, connectivity, convexity, differentiability, and Lebesgue integration. It is recommended that a student take a 1000-level course in analysis (MATH 1010 or MATH 1260) before attempting MATH 1130.

MATH 1140. Functions Of Several Variables. See Functions Of Several Variables (MATH 1130) for course description. Prerequisite: MATH 1130 or instructor permission.

MATH 1230. Graph Theory. This course covers important material about graph theory, such as spanning trees, network flow problems, matching problems, coloring problems, planarity, Cayley graphs, spectral theory on graphs, and Ramsey Theory. The emphasis will be on a combination of theory and algorithms. Depending on the instructor, connections to such fields as combinatorics, geometry, or computer science might be emphasized. Prerequisite: MATH 0180, 0200 or 0350 and MATH 0520 or 0540 are recommended.

MATH 1260. Complex Analysis. Examines one of the cornerstonest of mathematics. Complex differentiability, Cauchy-Riemann differential equations, contour integration, residue calculus, harmonic functions, geometric properties of complex mappings. Prerequisite: MATH 0180, 0200, or 0350. This course does not require MATH 0520 or 0540.

MATH 1410. Topology. Topology of Euclidean spaces, winding number and applications, knot theory, fundamental group and covering spaces. Euler characteristic, simplicial complexes, classification of two-dimensional manifolds, vector fields, the Poincaré-Hopf theorem, and introduction to three-dimensional topology. Prerequisites: MATH 0520 or MATH 0540, or instructor permission.

MATH 1530. Abstract Algebra. A proof-based course that introduces the principles and concepts of modern abstract algebra. Topics will include groups, rings, and fields, with applications to number theory, the theory of equations, and geometry. Previous proof-writing experience is not required. MATH 1530 is required of all students concentrating in mathematics. It is strongly suggested that potential mathematics concentrators make MATH 1530 one of the first thousand level mathematics classes that they take.
### Course Descriptions

#### MATH 2110. Real Function Theory
Real numbers, outer measures, measures, Lebesgue measure, integrals of measurable functions, Holder and Minkowski inequalities, modes of convergence, L^p spaces, product measures, Fubini's Theorem, signed measures, Radon-Nikodym theorem, dual space of L^p and of C, Hausdorff measure.

Fall MATH2110 S01 17202 TTh 9:00-10:20(05) (G. Daskalopoulos)

#### MATH 2110. Number Theory
An introduction to number theory, including congruences, divisibility, prime numbers, Diophantine equations, and algebraic number theory. Pre-reqs: MATH 1130 and MATH 1410.

Fall MATH2110 S01 17203 MWF 11:00-12:15(05) (B. Tshishiku)

#### MATH 2210. Real Function Theory
Real numbers, outer measures, measures, Lebesgue measure, integrals of measurable functions, Holder and Minkowski inequalities, modes of convergence, L^p spaces, product measures, Fubini's Theorem, signed measures, Radon-Nikodym theorem, dual space of L^p and of C, Hausdorff measure.

Fall MATH2210 S01 17203 MWF 2:00-2:50(01) (J. Gomez Serrano)

#### MATH 2220. Real Function Theory
The basics of Hilbert space theory, including orthogonal projections, the Riesz representation theorem, and compact operators. The basics of Banach space theory, including the open mapping theorem, closed graph theorem, uniform boundedness principle, Hahn-Banach theorem, Riesz representation theorem (pertaining to the dual of C_0(X)), weak and weak-star topologies. Various additional topics, possibly including Fourier series, Fourier transform, ergodic theorems, distribution theory, and the spectral theory of linear operators.

Fall MATH2220 S01 25612 MWF 10:00-10:50(03) (S. Treil)

#### MATH 2250. Complex Function Theory
Introduction to the theory of analytic functions of one complex variable. Content varies somewhat from year to year, but always includes the study of power series, complex line integrals, analytic continuation, conformal mapping, and an introduction to Riemann surfaces.

Fall MATH2250 S01 17204 TTh 2:30-3:50(12) (J. Kahn)

#### MATH 2260. Complex Function Theory
See Complex Function Theory (MATH 2250) for course description.

Spr MATH2260 S01 25613 TTh 2:30-3:50(11) (J. Kahn)

#### MATH 2410. Topology
An introduction to algebraic topology. Topics include fundamental group, covering spaces, simplicial and singular homology, CW complexes, and an introduction to cohomology. Pre-reqs: MATH 1410, MATH 1530, and MATH 1010 and/or MATH 1130 and undergraduates require permission from the instructor.

Fall MATH2410 S01 17205 TTh 10:30-11:50(13) (T. Goodwillie)

#### MATH 2420. Algebraic Topology
This is a continuation of MATH 2410. Topics include cohomology, cup products, Poincare duality, and other topics chosen by the instructor.

Spr MATH2420 S01 25614 TTh 9:00-10:20(05) (B. Tshishiku)

#### MATH 2450. Exchange Scholar Program
Fall MATH2450 S01 16138 Arranged 'To Be Arranged'

#### MATH 2510. Algebra
Basic properties of groups, rings, fields, and modules. Topics include: finite groups, representations of groups, rings with minimum condition, Galois theory, local rings, algebraic number theory, classical ideal theory, basic homological algebra, and elementary algebraic geometry. Pre-reqs: MATH 1530 and MATH 1540 and undergraduates require permission from the instructor.

Fall MATH2510 S01 17206 MWF 10:00-10:50(14) (D. Abramovich)

#### MATH 2520. Algebra
See Algebra (MATH 2510) for course description. Pre-reqs: MATH 2510 and undergraduates require permission from the instructor.

Spr MATH2520 S01 25615 MWF 11:00-11:50(04) (M. Chan)

#### MATH 2530. Number Theory
Introduction to algebraic and analytic number theory. Topics covered during the first semester include number fields, rings of integers, primes and ramification theory, completions, adeles and ideles, and zeta functions. Content of the second semester varies from year to year; possible topics include class field theory, arithmetic geometry, analytic number theory, and arithmetic K-theory. Pre-reqs: MATH 2510 and undergraduates require permission from the instructor.

Fall MATH2530 S01 17207 MWF 11:00-11:50(16) (J. Silverman)

#### MATH 2540. Number Theory
See Number Theory (MATH 2530) for course description.

Spr MATH2540 S01 25616 MWF 2:00-2:50(07) (J. Hoffstein)

#### MATH 2970. Preliminary Exam Preparation
No description available.

Fall MATH2970 S01 16139 Arranged 'To Be Arranged'

Spr MATH2970 S01 24888 Arranged 'To Be Arranged'

#### MATH 2990. Reading and Research
Independent research or course of study under the direction of a member of the faculty, which may include research for and preparation of a thesis. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

Fall MATH2990 S01 16140 Arranged 'To Be Arranged'

Spr MATH2990 S01 24889 Arranged 'To Be Arranged'

#### MATH XLIST. Courses of Interest to Students Majoring in Mathematics

##### Medieval Studies

#### MDVL 0360. Medieval Bodies: Medieval Perspectives
In this course, we will explore bodies from a wide range of disciplines in medieval studies. The body has been always an object of imagination, literature, science, philosophy, and religion, it is the vehicle of both the divine and the profane, and it is at the center of debates on sexuality, gender identities, race, and politics. In this course, we will look at how different views on the body and on sexuality developed and changed throughout the medieval period and how they influenced and were influenced by the religious doctrines, medical theories, and the intellectual environment of different groups of people. Finally, we will explore bodies both physical and metaphorical.

Spr MDVL0360 S01 26145 Arranged (J. Conant)

#### MDVL 1970. Independent Study
Tutorial instruction on an approved topic in Late Antique and/or Medieval cultures, supervised by a member of staff. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course. May be repeated once for credit.

#### MDVL 1990. Honors Thesis
Independent research and writing on a topic of special interest to the student, under the direction of a faculty member. Required of candidates for honors. Permission should be obtained from the Director of the Program in Medieval Studies.

#### Middle East Studies

#### MES 1151. Middle East in Anthropological Perspective (ANTH 1150)
Interested students must register for ANTH 1150.

#### MES 1968. Approaches to the Middle East (HIST 1968A)
Interested students must register for HIST 1968A.

#### MES 1970. Individual Research Project
Limited to juniors and seniors. Section numbers vary by instructor. Please check Banner for the correct section and CRN to use when registering for this course. Required: all proposals for independent study must be approved by the faculty sponsor and the MES program director. Students should not register for any section of MES 1970 without this approval.

#### MES 1971. Senior Honors Thesis
The purpose of this course is to guide you through the development and construction of your senior thesis project. It will provide you with empirical, methodological, and theoretical toolkits, as well as practical writing strategies, to help you bring your thesis to fruition. Open only to Senior students pursuing honors in Middle East Studies. Instructor permission required.

#### MES 2000A. Decolonizing the Racialized Female Subject: Black and Indigenous Women's Self-Making Under Empire
This study grapples with conceptions of freedom and humanity emergent in Black and Indigenous women’s practices under empire. Colonialism

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
is prefaced on construction of an “other.” Alain Césaire refers to this as “thnicification,” whereby colonial subjects are dehumanized and the colonizer “decelivized.” Totalizing dehumanizing forms are resisted by praxes and epistemologies which challenge the prevailing symbolic order and assert the humanity of those regarded as subhuman. We will examine how epistemological and political contestations of the human inform discourses on freedom and sovereignty and interrogate how various categories of identity refract and re-frame conceptions of humanity, freedom, and sovereignty.

**Modern Culture and Media**

**MCM 0150. Text/Media/Culture: Theories of Modern Culture and Media.**

This introductory course will explore its three key terms "modern," "culture," and "media" through a variety of theories, historical narratives, and media objects. We will ask how different media—such as print, photography, cinema, television, digital art, online video, archival practices, and social media—yield distinct modes of seeing, thinking, and feeling, structure the ways we act and engage with the common world, and communicate and collaborate. We will read semiotic theory, critical race studies, feminist, post-colonial, queer and political theory, and examine concepts such as textuality, visibility, and networks. Open to undergraduates only.

Fall MCM0150 S01 18127 MW 1:00-1:50 (A. Azoulay)

**MCM 0700A. Introduction to the Production Image.**

The course will provide students with a basic introduction to digital sound and image acquisition and post-production, and to consider the particular capabilities of these digital technologies, especially as these relate to the production of meaning. Of particular interest will be the representational limits of these technologies at the intersection of science and art. Classes will be organized as workshop environments where extensive class time will be devoted to hands-on learning with digital film cameras, lighting, and digital sound recorders. There are no prerequisites for this class.

Fall MCM0700A S01 18137 Th 10:00-12:50(13) (D. Udris)

**MCM 0700D. Introduction to Film Preservation and Restoration.**

This course will give students practical experience with film preservation and restoration in an active film archive at Brown University: The MCM Film Archives. Students will gain the ability to understand and recognize film elements in a variety of gauges (8mm, Super 8mm, 9.5mm, 16mm, Super 16mm, and 35mm). The class will undertake and complete film preservation projects for 16mm films. Students will learn to apply best preservation practices and archival standards to take a preservation project from start to finish, creating both film and digital preservation masters. Previous experience with film is not required. All students will acquire the film handling skills needed to complete a successful preservation project over the course of the semester. Public health rules permitting, the final projects will be presented in a public restoration showcase organized by the students and supported by MCM.

Spr MCM0700D S01 26332 Th 10:00-12:50 (R. Longo)

**MCM 0780A. Soundtracks: Sound Production and Visual Media.**

A production course that examines the role of sound in film, video, and installation forms. The listening assignments and visual media screenings will foreground the usage of audio in the works of selected artists/filmmakers. The course also considers works of sound art. Readings by sonic theorists and producers will examine the possibilities of sound production as a key register of modern social and aesthetic experience. Class members should have completed at least one time-based media class. Students are expected to be competent technically.

Fall MCM0780A S01 18140 Th 1:00-3:50(12) (A. Cokes)

**MCM 1205G. Contemporary Black Popular Music.**

This course provides an introduction to the history of black popular music since the 1970s, focusing primarily on sound cultures from the US, Caribbean, and Western Europe. We will begin by studying the mixing techniques developed in Reggae (dub), Disco (remix), and Hip-Hop (scratching and sampling) to discuss how they have shaped popular music since the 1970s. We will then survey these genres as well as the histories of R&B, House and Techno and some of their many offshoots (Jungle & Afrobeats, for instance) have developed over the last 30 years to ask how popular music functions as one of the main channels of communication among the cultures of the African diaspora. Overall, this course investigates the aesthetic, political, cultural, and economic dimensions of black popular music, paying particular attention to questions of gender, sexuality, class, nation, language, and technology.

Fall MCM1205G S01 18365 Th 2:30-5:30(12) (A. Cokes)

**MCM 1501O. Television, Gender, and Sexuality.**

Television, across all the screens on which we view, has an enormous impact on society—including on relations of gender and sexuality—as it is impacted by those relations in turn. This course investigates how television produces and reproduces constructions of gender and sexuality through its institutional form (as it maps relations between public and private, domestic and social, familial and defamiliarized), narrative patterns (as it circulates family romances, links gender and genre, and mediates sexual and social tensions), and spectator relations (as it variously addresses viewers as sexual and gendered subjects, consumers and commodities, "mainstream" and marginalized).

Fall MCM1501O S01 18225 Th 4:00-6:30(04) (L. Joyrich)

**MCM 1503B. Jane Austen and George Eliot (ENGL 1560A).**

Interested students must register for ENGL 1560A.

Fall MCM1503B S01 18667 Arranged "To Be Arranged"

**MCM 1504R. Iranian Cinema.**

The emergence in the 1990s of Iranian cinema onto the world stage caught many by surprise. This cinema has, however, had a long and illustrious history. While attempting to provide an historical survey of these films, we will focus primarily on those produced in the last two decades. We will pay close attention to cinematic form but will also examine the ways the films intersect with cultural-political events, including the Revolution and the subsequent Islamicization of the culture, the institutionalization of the "modesty system," and the alteration of divorce laws.

Spr MCM1504R S01 26335 W 3:00-5:30(10) (J. Kopiec)

**MCM 1505S. Kiarostami: What is an Image?**

In the history of cinema, a small number of directors have been treated as if their work stood for cinema itself. Abbas Kiarostami is one of these. Yet while his films foreground the act of cinema, they also address questions of reality to which the "neorealist" label cannot respond. To existing attempts to analyze his films in this light, we will add a principia domestica. Our question is this: how is it that the mystical, Islamic background from which Kiarostami invents is able to respond to current debates about reality in compelling, modern terms?

Fall MCM1505S S01 18652 W 3:00-5:30(10) (J. Kopiec)

**MCM 1506U. Is that a Fact?**

The status of the fact appears threatened. We argue: “you are entitled to your own opinion but not your own facts” to distinguish facts from merely personal, subjective or partisan views. Yet debates rage over the "factuality" of deficit projections, scientific observations, and historical legacies. The urgency of the question of the fact paradoxically trains a spotlight on questions of interpretation, criticism, and reading at the present time. This course examines historical and contemporary theories of interpretation and critique, reading and describing, rhetoric and theory, to illuminate the processes of mediation, the work, that establishes realities, confirms and disputes truths, and constitutes facts. We will consider debates in literary studies, philosophy, history, and science studies on the problem of knowledge, subjectivity in disciplinary practices, and the powerful role of the medium in shaping these interpretative events.

Fall MCM1506U S01 18161 M 3:00-5:30(03) (E. Rooney)

**MCM 1507J. Anti-colonial Temporalities - geographies and artisanal formations.**

This seminar will draw out anticolonial experiments and thought beyond/ outside of movements striving for national independence, in order to consider anticoloniality as an ongoing practice that we need to continuously engage, invent and mobilize to challenge the separations (between religions; between art and craft, for instance) that organize our world.
MCM 1700D. Reframing Documentary Production: Concepts and Questions. An advanced seminar for students of video and/or film production. Focuses on the critical discussion and production of documentary media. A major project (10-20 minutes), three shorter works, and in-class presentations of work-in-progress required. Readings on the theory and practice of the form and weekly screenings augment the presentation of student work. Class members should have completed at least one time-based media class. Students are expected to be competent technically. Fall MCM1700D S01 26338 W 10:00-12:50 (A. Cokes)

MCM 1700F. Theory for Practice / Practice as Theory. This advanced seminar explores the tensions between theory and practice in contemporary media and art works. The course examines how recent creative practices use theoretical concepts, and how practices today often include textual production or crucial theoretical implications. Requirements include: a major production project, short papers, presentations of work-in-progress, and weekly readings and screenings. Application required. Application is available in the MCM office. Students must bring a completed application to the first class to be considered for admission. The final class list will be determined after this meeting, with permission of the instructor. Enrollment limited to 20. S/NC. Fall MCM1700F S01 18170 W 10:00-12:50(15) (A. Cokes)

MCM 1970. Independent Study in Modern Culture and Media. Section numbers vary by instructor. Please check Courses @ Brown for the section number and CRN to use when registering for this course or contact the MCM office if you need a section number created for an instructor that's not listed. Time dedicated to the project should fall within the recommended range for independent studies (10-20 hours per week). Instructor’s permission required.

MCM 1980. Honors Thesis/Project Research in Modern Culture and Media (Part 1). Independent research under the direction of a faculty member leading to an honors thesis/project. MCM 1980 is the first of two courses required of MCM honors candidates and is taken in the 7th semester. Instructor’s permission required.

MCM 1990. Honors Thesis/Project in Modern Culture and Media (Part 2). Independent research and writing a thesis or creating/producing a project under the direction of a faculty member leading to an honors thesis/project. MCM 1990 is the second of two courses required of MCM honors candidates and is taken in the 8th semester. Instructor’s permission required. Prerequisite: MCM 1980.

MCM 2120S. Gesture, Media and the Oceanic. This course explores an orientation to media and performance studies through concepts of gesture, antiphony, and the wave-form, drawing on classic and contemporary media studies, performance studies, Black feminist thought, Indigenous and Decolonial thought, dance studies, and some overlap with science studies. A subtitle for this class might be “Flesh, Body, and Shoal.” This course is for Graduates only. Upperclass undergraduates require instructor's permission. Fall MCM2120S S01 18385 Th 1:00-3:30 (R. Schneider)

MCM 2310L. At the Limits: Media Representation of the Holocaust. The Holocaust has been described as unimaginable, at the limits of representation. Yet there have been numerous attempts to imagine and represent it, across media (film, television, graphic novels), genres (documentary, melodrama, comedy, fantasy), and modalities (through history and memory, “high” and “low” culture, fiction and nonfiction, reporting and marketing). Considering such attempts to represent the unrepresentable and mediate the immediacy of trauma, this course will explore media texts and theoretical/philosophical reflections on the Holocaust. Enrollment limited to 12. This course is for Graduates only. Upperclass undergraduates require instructor's permission. Fall MCM2310L S01 18228 T 1:00-3:30 (L. Joyrich)

MCM 2450. Exchange Scholar Program. Fall MCM2450 S01 16141 Arranged "To Be Arranged"

MCM 2980. Independent Reading and Research in Modern Culture and Media. Individual reading and research for doctoral candidates. Not open to undergraduates. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course. Time dedicated to the project should fall within the recommended range for independent studies (13-20 hours per week).

MCM 2990. Thesis Preparation. For graduate students who have met the residency requirement and are continuing research on a full time basis. Fall MCM2990 S01 16142 Arranged "To Be Arranged" Spr MCM2990 S01 24890 Arranged "To Be Arranged"

Music

MUSC 0021J. Stephen Sondheim and the American Musical. This seminar considers the theater shows of Stephen Sondheim in relation to the history of the American musical. Through close study of selected scenes and shows, we examine how and why Sondheim and his collaborators “reinvented” the genre. Special emphasis will be given to Sondheim’s critical skepticism concerning the myths, characters, and ethos of social optimism that have been central to the Broadway tradition. We examine links between the shows and post-WWII historical contexts, and consider the political implications of the circumscribed social universe—predominantly white, urban, and affluent—within which most of his shows take place. Fall MUSC0021J S01 16540 TTh 10:30-11:50(13) (D. Gooley)

MUSC 0021L. Music and War. Where there is war, there is music – to incite violence and mobilize armies; to express resistance, protest and patriotism; to bear witness to pain and memorialize victims; to heal from trauma and to build peace. How can music fulfill such different roles? Beyond the notes and words, how does music exercise such extraordinary power, especially in times of conflict, suffering and survival? Using texts, audio recordings, films and iconographic materials, this course explores the ways in which people have made music in relation to militarized conflicts and considers more broadly the nature of music and sound in the human experience. Fall MUSC0021L S01 18534 TTh 1:00-2:20(06) "To Be Arranged"

MUSC 0033. From the Blues to Beyoncé: Popular Music in the U.S.. This course seeks to view U.S. cultural and social history of the last century through the lens of popular music. We will investigate the history of popular music from its roots in the early twentieth-century to the present. We will examine the social, cultural and political contexts that gave birth to various genres of popular music by exploring the music through the lenses of race, class, gender, sexual orientation, advances in technology, and developments in the music business. No musical background is required. There are conference sessions for this course that meet every week. Spr MUSC0033 S01 25185 TTh 1:00-2:20(08) (E. Nathan)

MUSC 0068. Music in China Since 1900. From the early 20th century until now, war, political movements, ideological and cultural shifts, and later economic booms have dramatically impacted music and musical life in China. This course examines various genres of music in China, both native and imported, including traditional instrumental music, propaganda songs, opera, ballet, standard and contemporary classical music, popular music, and communal activities like amateur choruses and calisthenics. This course will exercise critical listening and thinking and comparative analysis skills, with a mix of source readings, recordings, and historical background. No background in music or Chinese history is required. Spr MUSC0068 S01 25152 W 9:00-11:30 (L. Wang)

MUSC 0200. Computers and Music. Computers and Music examines the production, history and theory of music technology. The course traces the development of musical inventions and their impact on musical thought and culture. Students completing Music 200 will gain a practical knowledge of electronic music based on first-hand experience with music production software to complete several creative assignments. Students will also gain an appreciation for the pioneering work done in previous decades in research,

For up-to-date course information please visit Courses@Brown.edu (https://cas.brown.edu).
songwriting and performance. Finally, students will become familiar with the literature of electronic music and learn about the impact of technology on popular and experimental genres. The course combines synchronous online lectures with in-person lab sections held in the Graduate Center Multimedia Lab. No special knowledge of music or technology is expected. Priority given to lower-level students and music concentrators. Upper-level students will be admitted as space allows, by permission of instructor.

**MUSC 0400A. Introduction to Music Theory.**
An introduction to musical terms, elements, and techniques. Topics include notation, rhythm and meter, intervals, scales, chords, melody writing, harmonization, and form. Students will develop their musicianship skills, including sight-singing and keyboard, in labs which meet twice weekly. No prior musical experience is necessary. MUSC 0400A or 0400B may fulfill part of the theory requirement for the music concentration. Enrollment limited to 40. Permission granted based on questionnaire given in first class. Preference given to lower-level students.

Fall MUSC400/500 S01 16559  TTh 10:30-11:50(13) (A. Cheung)
Fall MUSC400/500 B01 25159  TTh 2:30-3:50(11) (T. Winkler)

**MUSC 0400B. Introduction to Popular Music Theory and Songwriting.**
An introduction to musical terms, elements, and techniques, with an emphasis on how they apply to Western popular music. Topics include notation, rhythm and meter, intervals, scales, chords, melody writing, harmonization, and form. Students will develop their musicianship skills, including sight-singing and keyboard, in labs which meet twice weekly. No prior musical experience is necessary. MUSC 0400A or MUSC 0400B may fulfill part of the theory requirement for the music concentration. Enrollment limited to 30. Permission granted based on questionnaire given in first class. Preference given to lower-level students.

Fall MUSC400/500 S01 16556  MWF 11:00-11:50(16) (I. Tan)
Fall MUSC400/500 B01 25162  MWF 11:00-11:50(04) (I. Tan)

**MUSC 0450. On Songs and Songwriting.**
A study of the art and craft of song from the perspective of the listener, writer, and performer. Students will examine a large range of music, from the middle ages to the present. Topics include: song and memory; declamation and delivery; melody and harmony; rhyme and rhythm; phrasing and form. Emphasis will be on both creation and interpretation as students develop their personal approach to songwriting. Some prior knowledge of music desirable. Course will culminate in a presentation of original songs by students enrolled in the class. Enrollment by application and limited to 19. Application form link: http://www.soundidea.org/mu450/Music450-questionnaire.pdf

Fall MUSC4050 S01 16559  TTh 1:00-2:20(03) (M. Steinbach)
Fall MUSC4050 S02 16560  TTh 2:30-3:50(03) (I. Tan)
Spr MUSC4050 S01 25156  TTh 10:30-11:50(09) (L. Wang)

**MUSC 0550. Theory of Tonal Music I.**
Intensive study of the building blocks of tonal music traditions including western and popular music with focus on melody, harmony, counterpoint, keyboard skills, ear training, sight-singing from musical notation, and composition. Prior keyboard experience helpful but not required. A required placement exam is administered at first class meeting. Students who do not have experience reading music notation should take MUSC 0400 prior to MUSC 0550. MUSC 0550 is a prerequisite to many music courses and is a requirement for the music concentration.

Fall MUSC0550 S01 16559  TTh 1:00-2:20(03) (M. Steinbach)
Fall MUSC0550 S02 16560  TTh 2:30-3:50(03) (I. Tan)
Spr MUSC0550 S01 25156  TTh 10:30-11:50(09) (L. Wang)

**MUSC 0560. Theory of Tonal Music II.**
See Theory Of Tonal Music (MUSC 0550) for course description. Prerequisite: MUSC 0550 or permission of the instructor.

Spr MUSC0560 S01 25158  TTh 1:00-2:20(08) (M. Steinbach)

**MUSC 0570. Jazz and Pop Harmony.**
For students with knowledge of rudiments of music, including scales, intervals, key signatures, rhythm and meter. Keyboard skills strongly recommended. Intensive study of chord scales, chord progressions, modulation, voice leading, melody writing, harmonization, reharmonization, chord symbols, and lead sheet construction. Lab sessions will focus on ear training, keyboard exercises, and sight singing. Emphasis will be on the vocabulary of jazz theory and the repertoire will be American popular song.

Spr MUSC0570 S01 25156  TTh 10:30-11:50(09) (E. Tomassi)

**MUSC 0600. Chorus.**
Half credit each semester. A practical study of choral literature, techniques, and performance practice from Gregorian chant to the present, offered through rehearsals, sectional, and performances. Enrollment is by audition, based on voice quality, experience, and music-reading ability. Instructor permission required.

Fall MUSC0600 S01 16583  MW 6:30-9:00PM(03) (L. Jody)
Spr MUSC0600 S01 25179  MW 6:30-9:00PM (L. Jody)

**MUSC 0610. Orchestra.**
Half credit each semester. A practical study of the orchestra repertory from Bach to the present, offered through coaching, rehearsals, and performances. Enrollment is by audition. Students will be notified of audition results within the first seven days of the semester. Restricted to skilled instrumentalists. May be repeated for credit.

Fall MUSC0610 S01 16588  Th 7:15-9:45PM(02) (M. Seto)
Spr MUSC0610 S01 25180  Th 7:00-9:45PM (M. Seto)

**MUSC 0620. Wind Symphony.**
Half credit each semester. A practical study of the wind band repertory from Mozart to the present, offered through coaching, rehearsals, and performances. Enrollment is by audition. Restricted to skilled instrumentalists. Instructor permission required.

Fall MUSC0620 S01 16578  MW 6:00-7:20 (K. Plouffe)
Spr MUSC0620 S01 25177  MW 6:00-7:20 (K. Plouffe)

**MUSC 0630. Jazz Band.**
Half credit each semester. A practical study of jazz from the 1920s to the present through coaching, rehearsals, and performance. Seminars on arranging, ear training, and improvisation are conducted for interested students but the focus is on performance. Enrollment is by audition. Restricted to skilled instrumentalists and vocalists. Instructor permission required.

Fall MUSC0630 S01 16567  MW 7:30-8:50PM(03) (T. Vollbrecht)
Fall MUSC0630 S02 16568  T 8:00PM-9:30PM(03) (T. Vollbrecht)
Fall MUSC0630 S03 16569  W 2:00-3:20(03) (T. Vollbrecht)
Fall MUSC0630 S04 16570  W 3:30-4:50(03) (T. Vollbrecht)
Fall MUSC0630 S05 16571  F 4:00-5:20(03) (T. Vollbrecht)
Fall MUSC0630 S06 16572  T 10:30-11:50(03) (T. Vollbrecht)
Fall MUSC0630 S07 16573  Th 7:30-8:50PM(03) (T. Vollbrecht)
Fall MUSC0630 S08 16574  T 10:30-11:50(03) (T. Vollbrecht)
Fall MUSC0630 S09 16575  Th 4:00-5:20(03) (T. Vollbrecht)
Fall MUSC0630 S10 16576  F 2:30-3:30(03) (T. Vollbrecht)
Spr MUSC0630 S01 25195  MW 7:30-8:50PM (T. Vollbrecht)
Spr MUSC0630 S02 25196  T 8:00PM-9:20PM (T. Vollbrecht)
Spr MUSC0630 S03 25197  W 2:00-3:20 (T. Vollbrecht)
Spr MUSC0630 S04 25198  Arranged (T. Vollbrecht)
Spr MUSC0630 S05 25199  F 4:00-5:20 (T. Vollbrecht)
Spr MUSC0630 S06 25200  Th 6:00-8:30PM (T. Vollbrecht)
Spr MUSC0630 S07 25201  Th 7:30-8:50PM (T. Vollbrecht)
Spr MUSC0630 S08 25202  W 10:30-11:50 (T. Vollbrecht)
Spr MUSC0630 S09 25203  Th 4:00-5:20 (T. Vollbrecht)
Spr MUSC0630 S10 25204  F 2:30-3:50 (T. Vollbrecht)

**MUSC 0640. Ghanaian Drumming and Dancing Ensemble.**
A dynamic introductory course on drumming, dancing, and singing of Ghana and the diaspora. Students learn to perform diverse types of African music, including Ewe, Akan, Ga, and Dagomba pieces on drums, bells, and shakers. No prerequisites. May be repeated for credit. Enrollment limited to 15. Instructor permission required.

Fall MUSC0640 S01 16577  W 12:30-2:50(10) (M. Embgen)

**MUSC 0642. World Music Ensemble.**
This ensemble focuses on global percussive and song traditions, especially those of the African diaspora (based on instructor's vast musical experiences). Here western instrumentalists fuse with traditional musicians from every culture: bongo, gyil, ukulele, tabla, etc. Students will grow and develop their musical skills by learning new techniques on their own instrument, exploring a range of repertoire representing genres such as highlife, reggae, salsa, afrobeat, Afro-jazz, and global fusions. There will
be unique opportunities to work on improvisation taking influence from Steve Reich, Tito Puente, Randy Weston, Hugh Masekela, Paul Simon, Miriam Makeba, Ghanaba, and Milton Nascimento.

MUSC 0650. Javanese Gamelan.
Half credit each semester. Instruction, rehearsals, and performances in the gamelan music of Java, on instruments owned by the department. No prerequisites. Enrollment limited to 18 students.

MUSC 0670. Old-Time String Band.
Half course each semester. Instruction and ensemble playing. Music taught by ear. American (southern Appalachian Mountain) traditional music on violin (fiddle), S-string banjo, mandolin, and guitar. Enrollment limited to 20 students.

Half credit each semester. Restricted to skilled musicians. Openings are limited. Enrollment and re-enrollment is by audition and jury. Lessons are given by consultants to the Applied Music Program. A fee is charged for enrollment. Copies of the Applied Music Program Guidelines giving detailed information are available online at www.brown.edu/music. May be repeated up to four times for credit.

A history of music of the Baroque Era in European society from Monteverdi’s opera to Bach and Handel studied through texts, scores, CDs, DVDs, and YouTube. We’ll spend most of our time on these composers: Bach, Handel, Purcell, Monteverdi and Lully. Prerequisite: MUSC0550 or equivalent.

MUSC 1100. Introduction to Composition.
Introduction to Composition explores a wide variety of compositional theories and practices with the goal of honing students’ technical skills and developing their unique compositional styles. Through creative assignments, readings, and listening, students will have the opportunity to observe and reflect on various compositional practices that may in turn be applicable to their own work. We also will address questions of musical craft including notation, technology, and instruments. To merge the gap between theory and practice, in addition to our normal coursework we will conduct several reading sessions with hosted guest musicians, and we will conclude the semester with a final in-class concert. Prerequisite: MUSC 0560 or MUSC 0570 or permission of the instructor. Enrollment limited to 20 students.

MUSC 1110. Seminar in Composition.
This is a seminar-based course with a creative component focusing on specific compositional techniques such as writing transitions and motivic development, and writing for specific kinds of ensembles. These techniques are applicable to all kinds of music, from concert music to popular genres. The course will also address aesthetic issues, trends and influences and how they affect living composers’ individual voices. Besides studying noted repertoire from the concert tradition, we will also examine approaches to film scoring, improvisation, and environmental sound worlds outside of the traditional concert hall.

MUSC 1200. Recording and Sound Design Techniques.
Music 1200 is a rigorous study of music production techniques taught in parallel with topics in psychoacoustics. Students will create original studio work while developing listening and technical skills for audio production. Technical topics include recording, signal processing and mixing software, microphone technique, and sound engineering fundamentals. Class size is limited and some prior experience with digital audio workstations is expected. Preference will be given to students who have successfully completed MUSC 0200 and are active in the music department. Admission is determined by an entrance questionnaire completed at the first class meeting.

MUSC 1240. Intro to Rap Songwriting.
This is an introductory songwriting seminar in which students will explore various aspects of rap songwriting as lyricists and performers. Over the course of the semester we will examine a range of poetic constructs, song structures, and storytelling approaches through deep listening sessions, class discussions, and lectures from invited guests. Students will be expected to record verses or parts of verses as part of their weekly writing assignments as well as workshop prepared material with their classmates at three points during the semester.

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context for women’s composition and its reception over time as well as the development of a feminist perspective in music scholarship. 

Fall MUSC1663 S01 16544 TTh 10:30-11:50(13) “To Be Arranged”

MUSC 1710. Choral Conducting. 
An introduction to the art of conducting, with emphasis on choral training. A study of the relationship of gesture to sound will be combined with a survey of the choral repertoire, beginning with Gregorian Chant and covering renaissance motets, masses and madrigals, Baroque works with instruments, excerpts from Mozart’s vespers, 19th-century Romantic partongs, and selected 20th-century. Issues of basic vocal production, warm-ups, rehearsal planning, editing, programming and concert production will also be included. Prerequisite: MUSC 0400 or 0550. Written permission required. May be repeated for credit.  
Fall MUSC1710 S01 18488 W 3:00-5:30(10) (L. Jodry)

Half credit each semester. Restricted to skilled musicians. Restricted to skilled musicians demonstrating mastery of an advanced repertory in their fields. Openings are limited. Enrollment and re-enrollment is by audition and jury. Lessons are given by consultants to the Applied Music Program. MUSC 0830, 0840 is prerequisite to this course. A fee is charged for enrollment. Copies of the Applied Music Program Guidelines giving detailed information are available online at www.brown.edu/music. Prerequisite: MUSC 0400, or MUSC 0550, MUSC 0560. Written permission required. May be repeated up to four times for credit.

Explores how music mediates human relations to the natural world. Via case studies drawn from Western and non-Western societies, we will examine how theorists use sound to think through the difference between humans and non-humans; how composers and soundscape artists like Grieg, Ives, Westerkamp, and John Luther Adams shape listeners’ perceptions of natural worlds and ecological systems; how people in Papua New Guinea, Mongolia, and the Bolivian Andes use sound to coordinate ecological awareness; how instruments are implicated in human relationships with the environment; and the ways that sound art helps to challenge longstanding distinctions between nature and its others.  
Spr MUSC1921 S01 25155 W 9:00-11:30 (J. Tucker)

Students with experience in African and related musical traditions perform drumming, dancing, and singing of Ghana and the diaspora. Focus on a more challenging repertoire with emphasis on multi-part, lead, and improvisational playing. Prerequisite: audition. May be repeatable for credit. Instructor permission required. Enrollment limited to 15 students.  
Fall MUSC1960 S01 16564 W 3:30-5:50(14) (M. Obeng)

Directed undergraduate research for advanced students. Prerequisite: permission of the instructor. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

Directed undergraduate research for advanced students. Prerequisite: permission of the instructor. Section numbers vary by instructor. Please see the registration staff for the correct section number to use when registering for this course.

MUSC 2070. Music and Identity. 
From 19th-century European nationalism to 20th-century American multiculturalism, people have used music to affirm their identities. Drawing on anthropological and sociological theory, we examine the variety of connections between music and identity in several case studies. We consider the possible contributions of music to cross-cultural understanding, and discuss the ethics of musical border-crossing.  
Fall MUSC2070 S01 18440 W 3:00-5:30(10) (M. Perlman)

MUSC 2080D. Music, Nation, and Nationalism. 
This course explores the relation between music and nationhood, as a historically particular form of collective identity, and a dominant political category in late modern societies. Students will work with key texts in the study of nationhood and nationalism, applying them to musical case studies from different world regions. Touching upon art and popular music, these cases will explore the use of nationalist rhetoric to draw citizens into state projects; the appropriation of minority expressions in defining a national self; efforts by postcolonial societies to forge national sentiment from the fragments left by decolonization; and the nation’s fate after globalization.  
Spr MUSC2080S S01 25148 W 2:30-3:50(13) (J. Tucker)

MUSC 2080E. Seminar in Ethnomusicology: Historiography of Music and the Performing Arts. 
This course introduces some of the most important directions, trends, and methodologies in current musicalological scholarship. Most— but not all—readings are drawn from the last ten years. Weekly topics include: bodies and voices, disciplinarily, text and event, sound studies, materiality and technology, race and identity, mediation and networks. The workload is focused on weekly reading and small writing assignments. This course is open to undergraduates with permission.

MUSC 2200. Composition Seminar. 
A forum for graduate composers to share and critique current projects. Visiting artists and analysis of relevant outside repertoire will augment the group and one-on-one meetings. Enrollment is limited. Written permission required. May be repeated for credit.

MUSC 2210. Digital Performance. 
A production seminar examining the artistic impact and creative potential of digital media in the context of live performance. Readings and analysis of work examine innovations in performance practice from dance, theatre, performance art and music. Collaborative assignments investigate video projection, sound design and interactive sensor technology, culminating in a final large-scale performance. Permission will be granted based upon a questionnaire given in the first class.  
Fall MUSC2210 S01 16538 W 1:00-3:30(08) (T. Winkler)

MUSC 2280. Designing Large-Scale Projects. 
A production seminar designed for students to create a single, large project in Multimedia, Video, Performance and/or Electronic Music. The course covers planning and implementation strategies, including brainstorming sessions, visual storytelling, and sketching. Each project receives group feedback at several points in the process, such as initial proposals, prototype presentations and work-in-progress. The proposal includes an annotated bibliography of research materials that students present on in class. The course culminates a public presentation of the projects. The class is open to graduate students and seniors working on a capstone or thesis project. Permission will be granted after the first class.  
Spr MUSC2280 S01 25143 T 1:00-3:30 (T. Winkler)

MUSC 2290. Seminar In Sonic Practice. 
This studio and seminar course provides an exploration of contemporary sonic practice, facilitates the development of sound-based creative work, and encourages a critical approach to producing work in the field. Through discussion, reading, listening exercises, independent research, creative production and critiques, we will examine a number of intersecting areas of sonic practice including sound as a cultural, environmental, and artistic medium, phonography, sound installation, mobile audio, noise as strategy and material, linguistic and other sonic narrative structures. Students will develop sound-based pieces individually and in groups which function as creative research into the subjects areas of the course.  
Spr MUSC2290 S01 25144 M 3:00-5:30(13) (E. Osborn)

MUSC 2450. Exchange Scholar Program. 
Fall MUSC2450 S01 16144 Arranged 'To Be Arranged'
Fall MUSC2450 S02 16145 Arranged 'To Be Arranged'
Spr MUSC2450 S01 24892 Arranged 'To Be Arranged'

MUSC 2970. Preliminary Examination Preparation. 
For graduate students who have met the tuition requirement and are paying the registration fee to continue active enrollment while preparing for a preliminary examination.  
Fall MUSC2970 S01 16146 Arranged 'To Be Arranged'
Spr MUSC2970 S01 24893 Arranged 'To Be Arranged'

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
MUSC 2980. Reading and Research.
Directed graduate research. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

MUSC 2990. Thesis Preparation.
For graduate students who have met the residency requirement and are continuing research on a full-time basis.

PHIL 0010. The Place of Persons.
We’ll concentrate on some fundamental moral and metaphysical issues concerning ourselves as persons: What (if anything) gives us a moral status different from that of other animals? Do we have the sort of free will required for us to be morally responsible for our actions? What makes you one individual person or self at a particular time? What makes you today the same individual person as that obnoxious 5-year old who went by your name a few years back?

PHIL 0014. Philosophy of Religion.
This course introduces the main issues and debates in the Philosophy of Religion. It divides into three modules. We begin with the traditional arguments for God’s existence: Did God cause the universe? Is the universe designed? Should we believe in miracles? Then we will consider the traditional arguments against God’s existence: Can there be an all knowing or all powerful being? Does evil in the world show there is no God? We conclude with questions regarding faith: What is faith? Is faith without evidence rational? Is belief required for faith?

PHIL 0017. Animal Ethics.
This course is an introductory survey of philosophical issues in animal ethics. We affect the lives of non-human animals in myriad ways. What moral obligations do we have towards them? For example, is it wrong to eat meat? To experiment on animals? To keep pets? Should we try to reduce predation? How (morally) important is it that we save endangered species? Some take these to be among the most important ethical questions of our time. We will start with a brief overview of animal minds; then we will examine several contemporary theories of animal ethics. Along the way, we’ll pay careful attention to the implications of philosophy for everyday life.

PHIL 0040. Critical Reasoning.
Critical reasoning is the art of recognizing, analyzing, composing, and evaluating arguments. In this course, students will acquire skills that are needed not only to understand and evaluate complex arguments, but also to construct strong arguments themselves. Topics that will be covered include: validity and soundness, argument decomposition and construction, deductive and inductive arguments, and fallacious reasoning. After solidifying their critical reasoning skills, students will apply those skills to a number of challenging philosophical debates, touching on themes such as free will, skepticism, and morality.

PHIL 0110. Ancient Greek Philosophy.
This course will introduce students to the major concerns of Greek philosophy, and how they are addressed by the Presocratics, Plato, Aristotle, and the Stoics. We will have two related ends: historical and critical. On the one hand, we will get clear so far as we are able what it is that these thinkers thought; on the other, it is important to evaluate their arguments. This course will emphasize the identification of the problems and the solutions to them that seemed pressing to these thinkers, especially if such problems seem alien to us.

PHIL 0200H. Contemporary Ethical Issues.
Are we morally obligated to reduce greenhouse gas emissions? Do we have moral obligations toward nature, animals and other people, for instance future generations and refugees? Is abortion morally wrong? Is legalization of drugs the right thing to do? In this course we will explore these and other contemporary ethical issues in the context of important moral theories; utilitarianism, virtue ethics, and the social contract theory. This course will serve as an introduction to applied ethics and normative ethics.

PHIL 0401. Ethics of Digital Technology.
As the capacities of digital technology have increased, it has entered (almost) every domain of our lives. Algorithmic models, Artificial Intelligence, and everyday processing of vast amounts of data increasingly shape both our private choices and opportunities, and also our interactions in the public sphere. These developments raise new ethical and normative political questions and prompt us to examine the role of values such as freedom, autonomy, equality, and privacy in the digital sphere. How should a self-driving car behave when a crash is unavoidable? Are engineers responsible for the decisions of artificially-intelligent systems? What is the value of privacy in a world that increasingly depends on large amounts of data about customers, citizens, or patients? How does the algorithmic curating of content relate to freedom of expression? These and other topics will be the focus of this course.

PHIL 0403. Ethics and Politics of Data.
Persona data is ubiquitous: with the proliferation of digital technology, our lives and bodies have become increasingly observable, quantifiable, and interconnected. This generates new opportunity for the state, private companies, and other individuals to act on us. Data makes us more powerful but also more vulnerable. This course focuses on the new ethical and political challenges of lives permeated by the creation, collection, and processing of personal information. Do we own data? Is there a right to be forgotten? Should we use data to predict and manipulate individual behaviour? What responsibilities do we have to others whose data is intertwined with ours? These and other related topics will be the focus of this course.

PHIL 0430. Ethical Themes in the Contemporary American Short Story.
Consideration of contemporary American short stories in terms of their treatment of such ethical themes as love, loyalty, envy, kindness, pride, loneliness, pity, despair, and charity. This course has no prerequisites. T Th 2:30-3:50. The course will be conducted entirely as online synchronous sessions via Zoom. All sessions will be recorded for asynchronous access as well.

PHIL 0555. Choice, Commerce, and Conflict: An Introduction to PPE.
This interdisciplinary course provides an overview of some of the core conceptual tools used to analyze issues at the intersection of philosophy, politics, and economics (PPE). A range of theoretical topics are covered, including: game theory, property, markets, distributive justice, public choice theory, voting, and more. We will read classical and contemporary sources on these topics as well as explore their applications to contemporary social problems (including: climate change, healthcare rationing, price gouging, universal basic income, pharmaceutical regulations, and others).

PHIL 0640. Logic.
An introduction to perhaps the most fundamental tool of rational thought: deductive logic. Course begins with basic sentential logic, then moves on to deduction, quantification, and predication. Argumentation and reasoning may also be addressed at times. No previous experience with logic or philosophy is required.

PHIL 0992A. Puzzles of Rationality.
What is it to be rational? This course takes up that question by looking at a number of intriguing puzzles. For example: Is it irrational to not believe in God? Is it irrational to settle for less now when you could have more later? Is it irrational to intend to do something that you don't believe you'll do? Can it be rational to do what you hope you won't? When is it rational to be random? Is it ever rational to be irrational? Along the way, we will learn bayesian probability theory, decision theory, game theory, and social choice theory.
We'll concentrate on several issues involving knowledge and rational belief. What is knowledge, and how does it relate to rational or justified belief? Does a person's knowing something depend on non-evidential considerations? And what can we record for asynchronous access as well.

The justification of a person's belief depends just on facts internal to the person—or might it depend on her environment? And what can we learn from thinking about the skeptical position which claims that we're not justified in believing even the most ordinary things about the world around us? Pre-req: Must have taken one course in Philosophy.

A survey of some major topics in metaphysics, with a particular focus on radical metaphysical arguments – arguments that call into question our most basic beliefs about the world. Topics covered may include: What is personal identity? Does personal identity matter? Do personal identity and consciousness matter? Is there right and wrong and objective value? Is there free will? Are there any good arguments for God? Prerequisite: at least one course in philosophy (2 or more preferred).

Selections from the following topics: mind and behavior, mind as the brain, mind as a computing machine, thought and language, action and mental causation, intentionality and consciousness. Prerequisite: at least one course in philosophy (2 or more preferred).

Topics will include: (i) the different features of various types of consciousness; (ii) dualist, physicalist, and representationalist theories of experience; (iii) the nature of pain and other bodily sensations; (iv) the nature of conscious thought; (v) the qualitative dimension of perception; (vi) introspection; (vii) the roles of attention and working memory in perceptual consciousness; (viii) blindsight, inattentional blindness, hemineglect, and related phenomena; (ix) the unconscious; and (x) what it is for a state of consciousness to be unified.

Decision theory is a formal apparatus for analyzing preferences and choices. Students learn the formal theory and then examine its foundations and philosophical implications. Specific topics: the role of causation in decision problems, the status of the axioms of the theory, problems of infinite utility, rudimentary game theory, social choice functions, utilitarianism as a theorem.

Questions concerning the nature of mentality and its relation to the body. Selections from the following topics: mind and behavior, mind as the brain, mind as a computing machine, thought and language, action and mental causation, intentionality and consciousness. Prerequisite: at least one course in philosophy (2 or more preferred).
PHIL 2132. Moral Psychology. This seminar will examine in depth some problems associated with morality, rationality, and the human psyche. Possible topics: acting for reasons, moral responsibility, practical reasoning, moral character, love, modesty, being too good, moral luck, desire, weakness of will. Undergraduates require instructor permission to enroll.
Fall PHYS2410 S01 16454 Th 4:00-5:30(04) (N. Arpaly)

PHIL 2450. Exchange Scholar Program. For graduate students who have met the tuition requirement and are paying the registration fee to continue active enrollment while preparing for a preliminary examination.
Fall PHYS2450 S01 16150 Arranged 'To Be Arranged'
Fall PHYS2450 S02 16151 Arranged 'To Be Arranged'
Fall PHYS2450 S03 16152 Arranged 'To Be Arranged'
Spr PHYS2450 S01 24987 Arranged 'To Be Arranged'

PHIL 2510. Non-Naturalist Moral Realism. This seminar will examine recent metaethical theories, both 'robust' and 'quietist', that take basic moral expressions to pick out non-natural properties. In the first part we will look at the reasons non-naturalists give in favor of their view: that naturalism does not work, that expressivism is defective, that robust normative properties are needed to explain certain features of our normative practice and experience. In the second part we will see how they reply to the most significant objections to the view: epistemological, metaphysical, moral psychological. At the end of the year we will raise and attempt to answer some meta-ethical questions, particularly those arising from "quietist" conception of their own view (namely, that it has no ontological commitments).
Fall PHYS2510 S01 16920 M 3:00-5:30(03) (J. Dreier)

PHIL 2970. Preliminary Examination Preparation. For graduate students who have met the tuition requirement and are paying the registration fee to continue active enrollment while preparing for a preliminary examination.
Fall PHYS2970 S01 16153 Arranged 'To Be Arranged'
Spr PHYS2970 S01 24898 Arranged 'To Be Arranged'

PHIL 2980. Research in Philosophy. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

PHIL 2990. Thesis Preparation. For graduate students who have met the residency requirement and are continuing research on a full-time basis.
Fall PHYS2990 S01 16154 Arranged 'To Be Arranged'
Spr PHYS2990 S01 24899 Arranged 'To Be Arranged'

PHIL XLIST. Course of Interest to Philosophy Concentrators. Fall 2023
There are many courses that look at philosophers or philosophical questions in other departments, including Africana Studies, Classics, Cognitive and Linguistic Sciences, French Studies, German Studies, Judaic Studies, Mathematics, Modern Culture and Media, Political Science, and Religious Studies. They include:
African Studies
AFRI 0800 Theorizing Racism
AFRI 1510 Making and Remaking Blackness in the Western World
American Studies
AMST 1906X Black Queer Life
Religious Studies
COST 0120 The Classical Chinese Philosophy of Life
RELS 0120 The Classical Chinese Philosophy of Life
Gender and Sexuality Studies
GNSS 0620: Is This Working? Doing as Value
GNSS 1711: Speech and Silence, Trust, Rage and Fear: An Inquiry into the Possibility of Intimacy
Political Science
POLA 0110: Introduction to Political Thought
POLA 1415: Classics of Political Economy
POLA 1620D: Civil Liberties: Moral, Political and Legal Approaches
Religious Studies
RELS 0750: Law and Religion Sociology

PHYS 0030. Basic Physics A. Survey of mechanics for concentrators in sciences other than physics-including premedical and life science students. Students with more advanced math training are advised to take PHYS 0050, which covers the same topics in physics. Lectures and laboratory. Six hours of attendance.
Fall PHYS0030 S01 17303 MW 11:00-11:50(18) 'To Be Arranged'
Fall PHYS0030 S02 17304 MW 12:00-12:50(18) 'To Be Arranged'
Spr PHYS0030 S01 25739 MW 1:00-1:50(06) 'To Be Arranged'

PHYS 0040. Basic Physics B. Survey of electricity, magnetism, optics, and modern physics for concentrators in sciences other than physics-including premedical students or students without prior exposure to physics who require a less rigorous course than PHYS 0050, 0060. Lectures, conferences, and laboratory.
Fall PHYS0040 S01 17317 MW 12:00-12:50(15) 'To Be Arranged'
Spr PHYS0040 S01 25745 MW 11:00-11:50(04) 'To Be Arranged'
Spr PHYS0040 S02 25760 MW 12:00-12:50(01) 'To Be Arranged'

PHYS 0050. Foundations of Mechanics. An introduction to Newtonian mechanics that employs elementary calculus. Intended for science concentrators. Potential physics concentrators who do not have adequate preparation for PHYS 0070, may enroll, but are urged to continue with PHYS 0160 rather than PHYS 0060. Lectures, conferences, and laboratory. Six hours of attendance. Recommended: MATH 0090 or MATH 0100.
Fall PHYS0050 S01 17321 MW 8:30-9:50(08) 'To Be Arranged'

PHYS 0060. Foundations of Electromagnetism and Modern Physics. An introduction to the principles and phenomena of electricity, magnetism, optics, and the concepts of modern physics. Recommended for those who wish to limit their college physics to two semesters but seek a firm grounding in the subject, including but not limited to those with some previous knowledge of physics. Lectures, conferences, and laboratory. Six hours of attendance. Prerequisite: PHYS 0050. Recommended: MATH 0100.
Spr PHYS0060 S01 25761 MW 8:30-9:50(02) 'To Be Arranged'

PHYS 0070. Analytical Mechanics. A mathematically more rigorous introduction to Newtonian mechanics than PHYS 0050. For first-year students and sophomores who have studied physics previously and have completed a year of calculus. Lectures, conferences, and laboratory. Six hours of attendance. Prerequisites: high school physics and calculus or written permission. S/NC
Fall PHYS0070 S01 17329 MW 9:00-9:50(09) 'To Be Arranged'

PHYS 0160. Introduction to Relativity, Waves and Quantum Physics. A mathematically rigorous introduction to special relativity and quantum mechanics. The second course in the three-semester sequence (PHYS 0470 being the third) for those seeking the strongest foundation in physics. Also suitable for students better served by an introduction to modern physics rather than electromagnetism. Lectures, conferences, and laboratory. Six hours of attendance. Prerequisite: PHYS 0070 or 0050. Recommended: MATH 0180 or 0200. S/N/NC
Fall PHYS0160 S01 25772 MW 9:00-9:50(02) 'To Be Arranged'

PHYS 0220. Astronomy. An introduction to basic ideas and observations in astronomy, starting with the observed sky, coordinates and astronomical calendars and cycles, the historical development of our understanding of astronomical objects. Particular emphasis is placed on the properties of stars, galaxies, and the Universe as a whole, including the basic ideas of cosmology. The material is covered at a more basic level than PHYS 0270. Knowledge of basic algebra and trigonometry is required, but no experience with calculus is necessary. The course includes evening laboratory sessions.
Spr PHYS0220 S01 25781 Th 10:30-11:50(09) 'To Be Arranged'

PHYS 0270. Astronomy and Astrophysics. A complete survey of basic astronomy, more rigorous than is offered in PHYS 0220. Requires competence in algebra, geometry, trigonometry, and

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vectors and also some understanding of calculus and classical mechanics. Laboratory work required. This course or an equivalent required for students concentrating in astronomy. The course includes conferences and evening laboratory sessions.

Fall PHYS0270 S01 17337 TTh 1:00-2:20(06) "To Be Arranged"

PHYS 0470. Electricity and Magnetism. Electric and magnetic fields. Motion of charged particles in fields. Electric and magnetic properties of matter. Direct and alternating currents. Maxwell's equations. Laboratory work. Prerequisites: PHYS 0040, 0060, or 0160; and MATH 0180, 0200 or 0350. Labs meet every other week. Fall PHYS0470 S01 17338 MWF 10:00-10:50(14) "To Be Arranged"

PHYS 0500. Advanced Classical Mechanics. Dynamics of particles, rigid bodies, and elastic continua. Normal modes. Lagrangian and Hamiltonian formulations. Prerequisites: PHYS 0070, 0160 or 0050, 0060 and MATH 0180 or 0200; or approved equivalents. Spr PHYS0500 S01 25782 MWF 10:00-10:50(03) "To Be Arranged"

PHYS 0560. Experiments in Modern Physics. Introduction to experimental physics. Students perform fundamental experiments in modern quantum physics, including atomic physics, nuclear and particle physics, and condensed matter physics. Visits to research labs at Brown acquaintance students with fields of current research. Emphasizes laboratory techniques, statistics, and data analysis. Three lecture/discussion hours and three laboratory hours each week. Required of all physics concentrators. Prerequisites: PHYS 0070, 0160 or 0050, 0060; 0470. Spr PHYS0560 S01 25783 MWF 11:00-11:50(04) "To Be Arranged"

PHYS 0720. Methods of Mathematical Physics. This course is designed for sophomores in physical sciences, especially those intending to take sophomore or higher level Physics courses. Topics include linear algebra (including linear vector spaces), Fourier analysis, ordinary and partial differential equations, complex analysis (including contour integration). Pre-requisites: PHYS 0060 or 0160, MATH 0180, 0200 or 0350, or consent of the instructor. Fall PHYS0720 S01 17345 TTh 1:00-2:20(06) "To Be Arranged"

PHYS 0790. Physics of Matter. An introduction to the principles of quantum mechanics and their use in the description of the electronic, thermal, and optical properties of materials. Primarily intended as an advanced science course in the engineering curriculum. Open to others by permission. Prerequisites: ENGN 0040, APMA 0340 or equivalents. Fall PHYS0790 S01 17346 TTh 2:30-3:30(12) "To Be Arranged"

PHYS 1100. General Relativity. An introduction to Einstein's theory of gravity, including special relativity, spacetime curvature, cosmology and black holes. Prerequisites: PHYS 0500 and MATH 0520 or MATH 0540 or equivalent, or permission of the instructor. Recommended: PHYS 0720. Offered every other year. Spr PHYS1100 S01 25791 MWF 10:00-10:50(03) "To Be Arranged"

PHYS 1170. Introduction to Nuclear and High Energy Physics. A study of modern nuclear and particle physics, with emphasis on the theory and interpretation of experimental results. Prerequisites: PHYS 1410, 1420 (may be taken concurrently), or instructor permission. Spr PHYS1170 S01 25798 MWF 12:00-12:50(01) "To Be Arranged"

PHYS 1250. Stellar Structure and the Interstellar Medium. This class is an introduction to the physics of stars and their environment. The course covers the fundamental physics that set the physical properties of stars, such as their luminosity, size, spectral properties and how these quantities evolve with time. In addition, it includes a study of the physics that takes place in the gaseous environment surrounding stars, the Interstellar Medium (ISM). The ISM is very important because it contains a wealth of information on the evolutionary history of galaxies, their composition, formation and future. Prerequisites: PHYS 0270, PHYS 0470, or instructor permission. PHYS 1530 (perhaps taken concurrently) is strongly recommended but not required. Spr PHYS1250 S01 25800 MWF 1:00-1:50(06) "To Be Arranged"

PHYS 1270. Extragalactic Astronomy and High-Energy Astrophysics. This course provides an introduction to the astrophysics of galaxies, their structure and evolution, with an emphasis on physical introduction of the observations. Underlying physics concepts such as radiative transfer, nuclear reactions and accretion physics will be introduced. Intended for students at the junior level. Prerequisites: PHYS 0270 and PHYS 0470, and either MATH 0190 or MATH 0200, or instructor permission. Fall PHYS1270 S01 17347 MWF 2:00-2:50(01) "To Be Arranged"

PHYS 1410. Quantum Mechanics A. A unified treatment of quanta, photons, electrons, atoms, molecules, matter, nuclei, and particles. Quantum mechanics developed at the start and used to link and explain both the older and newer experimental phenomena of modern physics. Prerequisites: PHYS 0500 and 0560; and MATH 0520, 0540 or PHYS 0720; or approved equivalents. Fall PHYS1410 S01 17348 MWF 9:00-9:50(05) "To Be Arranged"

PHYS 1420. Quantum Mechanics B. See Quantum Mechanics A. (PHYS 1410) for course description. Spr PHYS1420 S01 25796 MWF 9:00-9:50(02) "To Be Arranged"

PHYS 1510. Advanced Electromagnetic Theory. Maxwell's laws and electromagnetic theory. Electromagnetic waves and radiation. Special relativity. Prerequisites: PHYS 0470, and MATH 0180, 0200, or 0350; or approved equivalents. Fall PHYS1510 S01 17349 TTh 9:00-10:20(05) "To Be Arranged"

PHYS 1530. Thermodynamics and Statistical Mechanics. The laws of thermodynamics and heat transfer. Atomic interpretation in terms of kinetic theory and elementary statistical mechanics. Applications to physical problems. Prerequisites: MATH 0180 or 0200 or 0350. Corequisite: PHYS 1410. Fall PHYS1530 S01 17350 MWF 1:00-1:50(08) "To Be Arranged"

PHYS 1560. Modern Physics Laboratory. A sequence of intensive, advanced experiments often introducing sophisticated techniques. Prerequisites: PHYS 0470, 0500 and 0560; and MATH 0520, 0540 or PHYS 0720; or approved equivalents. Spr PHYS1560 S01 25802 TTh 9:00-10:20(05) "To Be Arranged"

PHYS 1600. Computational Physics. This course provides students with an introduction to scientific computation, primarily as applied to physical science problems. It will assume a basic knowledge of programming and will focus on how computational methods can be used to study physical systems complementing experimental and theoretical techniques. Prerequisites: PHYS 0070, 0160 (or 0050, 0060) and 0470 (or ENGN 0510); MATH 0180 or 0200 or 0350; the ability to write a simple computer program in Fortran, Matlab, C or C++. Spr PHYS1600 S01 25804 TTh 1:00-2:20(08) "To Be Arranged"

PHYS 1610. Biological Physics. Introduction on structures of proteins, nucleotides, and membranes; electrostatics and hydration; chemical equilibrium; binding affinity and kinetics; hydrodynamics and transport; cellular mechanics and motions; biophysical techniques including sedimentation, electrophoresis, microscopy and spectroscopy. Suitable for undergraduate science and engineering majors and graduate students with limited background in life science. Prerequisites: MATH 0180. Spr PHYS1610 S01 25805 TTh 2:30-3:50(11) "To Be Arranged"

PHYS 1670. Soft Matter. This course provides an introduction to soft matter: polymers, elastomers, liquid crystals, and colloids. Students in physics, engineering, chemistry and applied mathematics may find this course useful. Familiarity with classical statistical mechanics (PHYS1530) is required. We will use scaling arguments and simple physical pictures as much as possible. Spr PHYS1670 S01 25814 TTh 10:30-11:50(09) (T. Powers)

PHYS 1720. Methods of Mathematical Physics. Designed primarily for sophomore students in physical sciences. Basic elements of and practical examples of linear algebra, the solution of ordinary and Partial Differential Equation, Complex Analysis and Application to Contour Integrals. Intended to prepare students for the mathematics encountered in PHYS 0500, 1410, 1420, 1510 and 1530. Pre-requisites: PHYS 0060 or 0160, MATH 0180, 0200 or 0350, or consent of the instructor. Fall PHYS1720 S01 17352 TTh 1:00-2:20(06) "To Be Arranged"
PHYS 1931S. Medical Physics.
Medical Physics is an applied branch of physics concerned with the application of the concepts and methods to the diagnosis and treatment of human disease. It allies with medical electronics, bioengineering, health physics. Students will familiarize with major texts and literature of medical physics and are exposed to imaging and treatment techniques and quality control procedures. Students will acquire physical and scientific background to pose questions and solve problems in medical physics. Topics include: Imaging -imaging metrics, ionizing radiation, radiation safety, radiocuity, computed tomography, nuclear medicine, ultrasound, magnetic resonance imaging, and Radiation Therapy -delivery systems, treatment planning, brachytherapy, image guidance.

Fall PHYS1931SS01 18065 W 3:00-5:30(10) (E. Klein)

Designed for undergraduates to participate, individually or in small groups, in research projects mentored by the physics faculty. Students must have taken one year of college level physics. An average of 8 to 10 hours per week is required. Research is required as are weekly meetings with the supervising faculty member. Students should consult with faculty to find a mutually agreeable research project and obtain permission to enroll. Section number varies by instructor (students must register for the appropriate section).

PHYS 1990. Senior Conference Course.
Preparation of thesis project. Required of candidates for the degree of bachelor of science with a concentration in physics. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

PHYS 2010. Techniques in Experimental Physics.
No description available.
Fall PHYS2010 S01 17351 W 3:00-5:30(10) 'To Be Arranged'
Spr PHYS2010 S01 25806 W 3:00-5:30(10) 'To Be Arranged'

An introduction to methods of mathematical analysis in physical science and engineering. The first semester course includes linear algebra and tensor analysis; analytic functions of a complex variable; integration in the complex plane; potential theory. The second semester course includes probability theory; eigenvalue problems; calculus of variations and extremum principles; wave propagation; other partial differential equations of evolution.

Fall PHYS2020 S01 17353 TTh 10:30-11:50(13) 'To Be Arranged'

PHYS 2030. Classical Theoretical Physics I.
No description available.
Fall PHYS2030 S01 17717 TTh 9:00-10:20(05) 'To Be Arranged'

PHYS 2040. Classical Theoretical Physics II.
No description available.
Spr PHYS2040 S01 25807 TTh 9:00-10:20(05) 'To Be Arranged'

PHYS 2050. Quantum Mechanics.
No description available.
Fall PHYS2050 S01 17355 MW 8:30-9:50(09) 'To Be Arranged'

PHYS 2060. Quantum Mechanics.
No description available.
Spr PHYS2060 S01 25808 MW 8:30-9:50(02) 'To Be Arranged'

PHYS 2070. Advanced Quantum Mechanics.
No description available.
Fall PHYS2070 S01 17356 MWF 11:00-11:50(16) 'To Be Arranged'

PHYS 2100. General Relativity.
This graduate course in general relativity and cosmology will cover the principles of Einstein's general theory of relativity, differential geometry, the first order formulation of general relativity (Einstein-Cartan theory), experimental tests of general relativity and black holes. The second half of the course will focus on relativistic cosmology with a focus on its interface with field theory.
Spr PHYS2100 S01 25809 MWF 10:00-10:50(03) 'To Be Arranged'

PHYS 2140. Statistical Mechanics.
No description available.
Spr PHYS2140 S01 25810 TTh 1:00-2:20(08) 'To Be Arranged'

PHYS 2300. Quantum Theory of Fields I.
No description available.
Fall PHYS2300 S01 17354 TTh 9:00-10:20(05) 'To Be Arranged'

PHYS 2320. Quantum Theory of Fields II.
No description available. Instructor permission required.
Fall PHYS2320 S01 17357 TTh 2:30-3:50(12) 'To Be Arranged'

PHYS 2410. Solid State Physics I.
No description available.
Fall PHYS2410 S01 17358 MWF 1:00-1:50(08) 'To Be Arranged'

PHYS 2420. Solid State Physics II.
The goal of the course is to explain the effects of interactions between the electrons on the properties of quantum materials. In particular, upon completing the course you will acquire deep understanding of the physics of conductors, symmetry broken phases and strongly interacting topological phases such as Hall effect. We will particularly concentrate on the phenomenology of these systems.
Spr PHYS2420 S01 26063 TTh 10:30-11:50(09) 'To Be Arranged'

PHYS 2430. Quantum Many Body Theory.
No description available.
Fall PHYS2430 S01 17359 TTh 10:30-11:50(13) 'To Be Arranged'

PHYS 2450. Exchange Scholar Program.
Fall PHYS2450 S01 16157 Arranged 'To Be Arranged'
Fall PHYS2450 S02 16158 Arranged 'To Be Arranged'
Spr PHYS2450 S01 24901 Arranged 'To Be Arranged'

PHYS 2600. Computational Physics.
This course provides students with an introduction to scientific computation at the graduate level, primarily as applied to physical science problems. It will assume a basic knowledge of programming and will focus on how computational methods can be used to study physical systems complementing experimental and theoretical techniques. Prerequisites: PHYS 2030, 2050, 2140; the ability to write a simple computer program in Fortran, Matlab, C or C++.
Spr PHYS2600 S01 25811 TTh 1:00-2:20(08) 'To Be Arranged'

PHYS 2630. Biological Physics.
The course is the graduate version of Phys 1610, Biological Physics. The topics to be covered include: crystals and biological molecules; diffusion, dissipation and random motion; flow and friction in fluids; entropy, temperature and energy; chemical reactions and self-assembly; solution electrostatics; action potential and nerve impulses. The graduate level course has additional pre-requisites of Phys 0470 and 1530, or equivalents. It requires homework assignments at the graduate level. The final grades will be assigned separately from those who take the course as Phys 1610, although the two groups may be taught in the same classroom.
Spr PHYS2630 S01 25995 TTh 2:30-3:50(11) 'To Be Arranged'

This course provides an introduction to soft matter: polymers, elastomers, liquid crystals, and colloids. Students in physics, engineering, chemistry, and applied mathematics may find this course useful. Familiarity with classical statistical mechanics (PHYS1530) is required. We will use scaling arguments and simple physical pictures as much as possible.
Spr PHYS2670 S01 25815 TTh 10:30-11:50(09) (T. Powers)

PHYS 2710. Seminar in Research Topics.
Instruction via reading assignments and seminars for graduate students on research projects. Credit may vary. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

PHYS 2711. Seminar in Research Topics.
See Seminar In Research Topics (PHYS 2710) for course description. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
PHYS 2970. Preliminary Examination Preparation.  
For graduate students who have met the tuition requirement and are paying the registration fee to continue active enrollment while preparing for a preliminary examination.
Fall PHYS2970 S01 16159 Arranged "To Be Arranged"  
Spr PHYS2970 S01 24902 Arranged "To Be Arranged"

PHYS 2980. Research in Physics.  
Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

PHYS 2981. Research in Physics.  
Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

PHYS 2990. Thesis Preparation.  
For graduate students who have met the residency requirement and are continuing research on a full time basis.
Fall PHYS2990 S01 16160 Arranged "To Be Arranged"  
Spr PHYS2990 S01 24903 Arranged "To Be Arranged"

Political Science
POLS 0010. Introduction to the American Political Process.  
This course is designed to be an introduction to the American political process, broadly defined. We will cover topics including but not limited to: Constitution, Federalism, Federal Budget, Congress, Presidency, Bureaucracy, Judiciary, Civil Rights, Civil Liberties, Public Opinion, Media, Interest Groups, Political Parties, Campaigns, Elections, and Participation.
Spr POLS0010 S01 20585 TTh 2:30-3:50(11) (R. Arenberg)

POLS 0110. Introduction to Political Thought.  
What is justice? What is freedom? What is the basis of political authority? What is the nature of the best regime? Why should we obey the laws? When may we legitimately resist? These and other perennial questions of political life are explored. Readings include Aristotle, Machiavelli, Hobbes, Locke, Rousseau, Marx, and J.S. Mill.
Fall POLS0110 S01 16405 TTh 9:00-10:20(05) (M. Rogers)

POLS 0200. Introduction to Comparative Politics.  
Introduces students to the sub-field of comparative politics or politics within states. Topics include types of regimes (i.e., democratic, authoritarian-with-adjectives, totalitarian); transitions to democracy; collapse of democratic regimes; democratizing, revolutionary and ethnic challenges to the state; and globalization. The course also pays attention to modes of analysis in comparative politics. Cases will be drawn from various regions, including Western and Eastern Europe, Asia, Africa, the Middle East, and Latin America.
Spr POLS0200 S01 20559 TTh 10:30-11:50(09) (D. Choi)

POLS 0400. Introduction to International Politics.  
This course provides a basic introduction to the central theoretical perspectives and debates in international relations. The second part of the course applies these models to current problems in international relations, including globalization, state failure, humanitarian intervention, NGOs, terrorist networks, environmental issues, and possible future change in international politics.
Fall POLS0400 S01 16410 TTh 6:40-8:00PM(02) (R. McDermott)

POLS 0500. Foundations of Political Analysis.  
This course provides an introduction for undergraduate students to the methods that political scientists (and other social scientists) use to generate and answer questions about the world around us. This course will provide you with the tools to evaluate critically social science research, and it will improve your ability to pose and answer research questions of your own. Both quantitative and qualitative approaches are covered. Not open to first year students.
Fall POLS0500 S01 16411 TTh 1:00-2:20(06) (R. Weitz-Shapiro)

POLS 0820L. Philosophy of the American Founding.  
This course will examine major constitutional controversies within the context of wider debates in political and legal theory. Readings from Supreme Court cases and prominent texts in political/legal theory. Each year we will focus on a different theme and set of constitutional issues. Topics might include a mix of federalism, separation of powers, privacy, free speech, and abortion. We will also focus on how political and legal theory helps us to consider these topics in tandem.
Fall POLS0820L S01 16404 W 3:00-5:30(10) (P. Testa)

This course is about the "underside" of globalization. It introduces key sectors of the illicit global economy, including the clandestine flow of drugs, arms, people, body parts, arts and antiques, endangered species, and toxic waste. The course compares these illicit sectors across time and place, and evaluates the practice and politics of state regulatory efforts. Particular attention is given to the role of the U.S. in the illicit global economy.
Fall POLS1020 S01 18499 MWF 2:00-2:50(01) (P. Andreas)

POLS 1090. Polarized Politics.  
Focus will be on growing partisan polarization in American politics. Existence of polarization in institutions like House of Representatives, Senate, the presidency, federal courts, media, and religion will be examined. Emphasis will include the roles of political elites, non-elites, lobbyists, money in politics, red states/blue states, House and Senate rules, particular pressures created by budget, domestic, foreign policy, defense and homeland security issues. Requires extensive reading, development of a final paper, take-active class participation. Expectation to remain informed about current events as they apply to partisan polarization and to weigh the impacts of polarized politics on a democratic nation.
Fall POLS1090 S01 16412 TTh 2:30-3:50(12) (R. Arenberg)

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
POLS 1225. Nuclear Weapons. This advanced undergraduate lecture course examines the history and politics of the world’s most destructive weapons. It is an introduction to the nuclear age, including how nuclear weapons work, the causes and consequences of the spread of nuclear weapons technology, and the basic strategies of the nuclear powers. Students will emerge with a working knowledge of the role of nuclear weapons in international politics and the future of managing this dual-use technology.

Spr POLS1225 S01 25398 MWF 1:00-1:50(06) (R. Pauly)

POLS 1250. Capitalism, Democracy, and Geopolitics in Europe. Topics covered include the state and challenges to the state of social class, ethnicity, immigration and religion; political parties and the formation of governing coalitions; new social movements and new political identities; voting behavior and other forms of mass politics; the European Union.

Spr POLS1250 S01 25064 TTh 9:00-10:20(05) (J. Ziegler)

POLS 1280. Politics, Economy and Society in India. This course will concentrate on three aspects of the "Indian experience": democracy, ethnic and religious diversity, and political economy. With a brief exception, India has continued to be democratic since 1947. No developing country matches India's democratic record. Second, remarkable cultural, ethnic and religious diversity marks India's social landscape, and influences its politics. Third, Indian economy has of late been going through a serious economic transformation, drawing comparisons with China. Is the comparison valid?

Spr POLS1280 S01 25065 MWF 2:00-2:50(07) (A. Varshney)

POLS 1310. African American Politics. Focuses on the contemporary African American politics in various spheres of the American political environment. Examines also how the concept of an African American community has evolved and shifted historically. We will pay particular attention to the growing diversity within the African American community and discuss what these changes mean for black political participation, representation, and organizing.

Spr POLS1310 S01 25066 MWF 11:00-11:50(04) (M. Orr)

POLS 1315. Diversity & U.S. Minority Politics. In this course, students examine the politics of social groups in order to gain a broader perspective of the American political process. Topics can vary, and include a review of the major developments in American politics for historically discriminated groups including women.

Fall POLS1315 S01 16415 TTh 10:30-11:50(13) (K. Tate)

POLS 1440. Security, Governance and Development in Africa. Some of the fastest-growing economies in the world now lie in sub-Saharan Africa. Yet Africa is also home to some of the world’s most corrupt and violent states. This course will provide a variety of lenses through which to view the role and other paradoxes on the continent, with a focus on security, governance and economic development. Topics will include the long-term consequences of colonialism and the slave trade; the politics of independence; the causes and effects of crime, violence and civil war; democracy and democratization; the promise and pitfalls of political participation, and other politically-relevant categories intersect. Enrollment limited to 20 juniors and seniors.

Fall POLS1440 S01 16418 MWF 11:00-11:50(16) (R. Blaau)

POLS 1455. Crime, Punishment, and Politics. This class uses theories and tools from the social sciences to understand criminal behavior in a variety of settings. It examines whether we can use rational choice theories to explain patterns of offending and the organization and operation of illicit markets. We will investigate the different way that governments seek to control crime, as well as, non-state alternatives to public safety. Organized crime groups have significant influence in communities both historically and today, so we study why they exist and how they organize. Finally, we look at how political institutions affect crime and the operation of the criminal legal system, including persistent problems of racial disparities at all points in the system.

Spr POLS1455 S01 25094 TTh 1:00-2:20(08) (D. Skarbek)

POLS 1500. The International Law and Politics of Human Rights. Introduces students to the law and politics of international human rights; examines the construction of an international human rights regime and its influence on international politics. Will survey the actors and organizations involved in the promotion of human rights around the globe, as well as the obstacles. Will review compelling conceptions of human rights, whether human rights are universal, problems of enforcement, and the role of human rights in foreign policy. Major topics include civil and political rights; economic, social and cultural rights; genocide, torture, women's rights, humanitarian intervention, and the international criminal court. POLS 0400 strongly encouraged as a prerequisite.

Fall POLS1500 S01 16420 MWF 10:00-10:50(14) (N. Tannenwald)

POLS 1600. Political Research Methods. Introduction to quantitative research methods in political science. Topics include research design, descriptive statistics, statistical hypothesis testing, and bivariate and multivariate regression. By the end of the course, students will have the requisite skills to intelligently consume and produce basic quantitative social science research. Enrollment limited to 24 sophomore, junior, and senior Political Science, International Relations, or Public Policy concentrators.

Spr POLS1600 S01 25070 MWF 12:00-12:50(01) (P. Testa)

POLS 1820D. Civil Liberties: Moral, Political and Legal Approaches. This course will examine major constitutional controversies within the context of wider debates in political and legal theory. Readings from Supreme Court cases and prominent texts in political/legal theory. Topics include free speech, privacy, abortion, takings and capital punishment. Prior course work in political theory or philosophy recommended. Enrollment limited to 20 juniors and seniors concentrating in Political Science.

Fall POLS1820D S01 16507 Th 4:00-5:30(04) (C. Bretschneider)

POLS 1821N. Political Journalism. Exploration of the development of political reporting and analysis of contemporary public affairs reporting. Will address key elements of the best political journalism, as well as the manner in which political journalism affects public opinion, political attitudes, and campaigns and elections. Enrollment limited to 20 junior and senior Political Science concentrators.

Spr POLS1821N S01 25073 T 4:00-6:30(16) (J. Robbins)

POLS 1821S. Women and Politics. How has the importance of gender in politics changed over time? Must women represent women? Can men also represent women? Do women and men participate politically in different ways? Why is there a persistent gender gap in political leadership? Do women campaign differently than men? What are “women’s issues”? Do they affect all women equally? This course explores these and other questions, drawing on a range of literature from political science and public policy. We will also examine contemporary political debates and investigate varying ways in which the categories of gender, race and ethnicity, and other politically-relevant categories intersect. Enrollment limited to 20 juniors and seniors.

Fall POLS1821S S01 18564 W 3:00-5:30(10) “To Be Arranged”

POLS 1821V. Democracy and Inequality in American Cities. Explores the relationship between democracy and inequality in contemporary American cities. The seminar considers different kinds of inequality – economic, political and group/horizontal – from the standpoint of national politics in the United States. The focus then shifts to the literature on urban politics in the United States, assessing the major contrasting theoretical perspectives on the causes of local inequalities in American cities. Finally, we focus on unequal access to public safety and justice. Over the course of the semester, students will be expected to carry out “fieldwork” involving first-hand observation of local inequalities in the Greater Providence area.

Spr POLS1821V S01 25074 M 3:00-5:30(13) (R. Snyder)

POLS 1822U. War and Human Rights. This seminar will begin by studying the rise and spread of the notion of human rights, examining some of the core debates over human rights, including their enforcement in times of war. It will then turn to the laws of war, focusing especially on the 1949 Geneva Conventions and the challenges posed to the Conventions by the rise of non-state actors wielding significant violence. Topics include child soldiers, war crimes, humanitarian intervention, torture, targeted killings, humanitarianism, and the international justice. Enrollment limited to 20 juniors and seniors concentrating in Political Science or International Relations.

Spr POLS1822U S01 25078 W 3:00-5:30(10) (N. Tannenwald)
POLS 1822W. Congressional Investigations. This seminar will explore the role that Congressional investigations have historically played at the intersection of politics, public policy, tension between the executive and legislative branches, law and media, focusing on certain of the seminal Congressional investigations that both reflected and re-shaped the politics of the day. These will include the Pecora investigation into the 1929 stock market crash, the Truman Committee investigation into defense contracting during World War II, the House Un-American Activities Committee, the McCarthy hearings, Watergate, the Iran-Contra hearings and the Senate Permanent Subcommittee on Investigations hearings into the financial services industry.

Fall POLS1822W S01 16423 T 4:00-6:30(07) (J. Robbins)

POLS 1823l. Urban Politics and Policy. In this course, students examine the politics of urban America, and the causes and consequences of urban poverty and inequality. Enrollment limited to 20.

Spr POLS1823l S01 25077 M 3:00-5:30(13) (K. Tate)

POLS 1823Z. Gender and Public Policy. How do political institutions, political communication, and policy making processes operate in gendered ways? What kinds of gendered disparities emerge in education, health, employment, and social policies? This course examines how gender combines with sexuality, race and ethnicity, social class, immigration status, and ideology to yield disparate political and policy experiences. It also considers pathways forward to address these disparities. The course focuses on the U.S., and looks to other countries for models.

Spr POLS1823Z S01 25260 W 3:00-5:30(10) (S. Moffitt)

POLS 1824S. The Politics of Migration. Managing migration waves is one of the big challenges of our time, one that is destined to increase in importance as climate change, conflicts, and economic inequality continue pushing people to move. This course provides an overview of cutting-edge research on the causes and consequences of migration. We will evaluate some of the common beliefs about migration using scientific studies: Is it true that most migrants are poor? Do restrictive policies discourage migration? Are immigrants good or bad for the economy? We will discuss the questions at the center of the political debate on migration and critically evaluate each argument based on scientific knowledge. Our discussions will be rooted in specific country cases (Ukraine, Syria, Bangladesh, East Africa, Pacific Islands,...), which we will use to learn about migration episodes and as a basis for a fact-based discussion.

Fall POLS1824S S01 18323 W 3:00-5:30(10) (G. Dipoppa)

POLS 1825M. The Politics of Finance and Financial Crises. We explores politics around management of international money and financial crises. Although it has been argued that management of money is best left in the hands of dispassionate, technocratic experts, we explore the political foundations of national money and international monetary affairs. The course begins with an introductory overview of national and global currencies, monetary policy choices and recent history of international monetary system. The second half of the semester will focus on crisis events, starting with causes of financial crises, and moving to key crisis moments Latin American debt crises, emerging market crises of the 1990s, 2007-8 Global Financial Crisis and the Euro crisis. The last weeks of the course reflect upon the current crisis that has emerged with the Covid-19 pandemic, and its implications for the global political economy and future of the dollar in the international monetary system.

Fall POLS1825M S01 16642 M 3:00-5:30(03) (A. Sahasrabuddhe)

POLS 1825R. Environment, Migration, and Conflict in Contemporary European Politics. Managing climate change, people’s movements, and conflict between states and individuals are the most urgent and difficult challenges of our time. This course focuses on how those challenges are addressed with a focus on Europe. Our objective will be to learn the foundations of European politics and apply this knowledge to understand how environmental degradation, migration, and conflict are managed in Europe today.

Spr POLS1825R S01 25397 Th 4:00-6:30(17) (G. Dipoppa)

POLS 1825S. Latino Politics in the United States. This course will provide an overview of Latino politics in the United States. The Latino population in the United States has eclipsed 62 million and makes up nearly one-in-five people (19%). The purpose of this course is to learn how Latinos interact and relate to United States politics. We will begin by discussing Latino/x ethnicity and analyzing the extent to which Latinos have politicized identities. We will then examine historical and demographic trends, including immigration patterns and policies as well as Chicano social and labor movements. The course will also cover topics related to Latino political behavior including Latino public opinion, voting patterns, and representation. Lastly, we will discuss the role of Latinos in recent elections, reflecting on both the narratives of the “Latino vote” in academia and the media.

Fall POLS1825 S01 16982 T 4:00-6:30(07) (M. Zarate)

POLS 1910. Senior Honors Thesis Preparation. Concentrators who have given evidence of superior work in political science may be admitted to honors seminar on the basis of an application submitted in the spring of their junior year. Application and guidelines may be obtained on the Department of Political Science website. Prerequisite: Fulfillment of Methods requirement. Enrollment limited to 20 senior Political Science concentrators. Instructor permission required.

Fall POLS1910 S01 18485 T 4:00-6:30(07) (N. Tannenwald)

POLS 1970. Individual Reading and Research. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

POLS 1971. Individual Reading and Research. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

POLS 2100. Proseminar in American Politics. Introduction to broad issues in American politics. Topics include the interplay of political institutions in the American setting, public opinion formation, the process of policy-making, and voting behavior. Enrollment limited to 14. Graduate students only; qualified undergraduates with instructor permission.

Fall POLS2100 S01 16429 W 1:30-4:00 (N. Tannenwald)

POLS 2104. Institutions, Crime, and Violence. Will examine relationships and interactions among institutions, criminal actors, and violence. State-based institutions play an important role in explaining the level of disorganized or organized crime. Organized crime groups, in turn, influence both state-based institutions (for example, through corrupting officials) and other criminal activity, often by creating the “rules of the game” by which other criminals can act. Finally, both state-based and criminal actors and institutions influence the level of violence in society. Each of these three influences, and is influenced by, the others. This course offers the opportunity to better understand how these three factors relate to each other.

Fall POLS2104 S01 16442 M 4:00-6:30 (D. Woody)

POLS 2100. Proseminar in American Politics. Introduction to broad issues in American politics. Topics include the interplay of political institutions in the American setting, public opinion formation, the process of policy-making, and voting behavior. Enrollment limited to 14. Graduate students only; qualified undergraduates with instructor permission.

Fall POLS2100 S01 16429 W 1:30-4:00 (S. Moffitt)

POLS 2130. Proseminar in International Relations. Surveys the main theoretical trajectories and intellectual disagreements that define International Relations as a discipline today. Positions examined include varieties of realism and constructivism; liberalism-sociological approaches; and systemic and subsystemic theories. Also considers debates about the contours of contemporary world politics, America and the world, moral issues, and the links between theory and policy. Enrollment limited to 14. Not open to undergraduates.
POL 2330. Politics in India.
This seminar will present Indian politics in a comparative and theoretical framework. It will focus on four themes: British India and Indian Nationalism, India's democratic experience; politics of ethnic and religious diversity; and political economy, concentrating especially on India's economic rise. Readings include the classics of the subfield of Indian politics and political economy, but also quite a lot of recent scholarship. Enrollment limited to 14 graduate students.
Fall POLS2330 S01 16432 Th 1:30-4:00 (A. Varshney)

POL 2341. Supposing Hannah Arendt is Antiblack, Then What?
What would it mean to reckon with the anti-blackness found in the corpus of Hannah Arendt, arguably one of the greatest political theorists of the twentieth century? The course approaches this question in two parts. The first half of the course will be devoted to critically engaging, on their own terms, the texts within Arendt's corpus that theorize blackness through considerations of education, slavery, settler-colonialism, education, civil disobedience and revolutionary violence. The second half of the course will turn to a growing secondary literature that has reckoned with Arendt's anti-blackness and offers alternative conceptions of the political, the social and common sense to propose new ground for theorizing the possibilities of black flourishing. After doing the careful work of critical reconstruction throughout the semester, students will be positioned to offer their own research-informed insights about the question of the course.
Fall POLS2341 S01 18338 W 4:00-6:30 (A. LeSure)

POL 2450. Exchange Scholar Program.
Fall POLS2450 S01 16164 Arranged "To Be Arranged"
Spr POLS2450 S01 24906 Arranged "To Be Arranged"

POL 2580. Quantitative Research Methods I.
This course introduces students to statistical theory and quantitative methods commonly used in political science and public policy. The course focuses on statistical inference using multiple techniques of regression analysis and gives students opportunities to become proficient users of the statistical software package R as they develop statistical models and analyze their data. Enrollment limited to 14. Open to graduate students in Political Science only.
Fall POLS2580 S01 16433 Th 4:00-6:30(04) (P. Testa)

POL 2605. Quantitative Research Methods III.
Advanced Quantitative Research Methods is the third course in the methods sequence for graduate students in political science and an intermediate-level course in statistics and applied econometrics for graduate students in political science and public policy. Topics will include causal inference, difference-in-differences designs, instrumental variable approaches, regression discontinuity designs and hierarchical models. The course will be applied, focused on grasping the use of these methods in practice and facing practical data limitation challenges. Special focus will be given to understanding the most recent advances in the literature on each of the strategies studied. I expect that most of you have already taken POLS2580 and POLS2600, and that all of you are familiar with core statistical and econometric concepts. Our sessions will be divided between lectures, group work and data analysis in Stata and/or R.
Fall POLS2605 S01 18326 W 6:30-9:00PM (G. Dipopla)

POL 2795. Research Design.
This course introduces students to statistical theory and quantitative methods commonly used in political science and public policy. The course focuses on statistical inference using multiple techniques of regression analysis and gives students opportunities to become proficient users of the statistical software package R as they develop statistical models and analyze their data. Enrollment limited to 14. Open to graduate students in Political Science only.
Fall POLS2795 S01 16430 T 8:30-11:00 (J. Colgan)

POL 2796. Field Survey and Research Design.
An independent study directed by a tenure-line faculty member of the Department of Political Science. Only third-year graduate students may register for the course; it is intended to provide a framework for producing a formal research design modeled on the dissertation prospectus.
Fall POLS2796 S01 16432 T 8:30-11:00 (J. Colgan)
POBS 1970. Reading and Guided Study.
Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

This independent study course is designed for students working on honors projects. Written permission of the concentration advisor (Prof. Sobral) is required. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

POBS 2450. Exchange Scholar Program.
Fall POBS2450 S01 16161 Arranged 'To Be Arranged'

POBS 2500C. Brazilian Landscapes of Crisis and Hope.
How do we imagine human and more than human actors and landscapes marked/marred by coloniality, predatory extractivism, slavery and epistemicide, and their contemporary fallouts? Is it possible to think of alternate futures in light of human-generated environmental crisis? This course focuses on Brazilian literary and cultural production that confronts what Aníbal Quijano termed the "colonial matrix of power" as well as how this framework has sparked multiple forms of resistances that have contributed to a creative de-colonialization of knowledge and the imaginations of other possible futures that confront colonial power in its various iterations. In particular, we will examine the creative relation between decoloniality and nature through works by Indigenous and Afro-Brazilian authors, visual artists, filmmakers, and other cultural agents and activists that reimagine the interactions between and possible common futures of humans and more than humans.
Fall POBS2500C S01 18207 W 3:00-5:30(10) (L. Lehnen)

POBS 2500D. The Lusophone World and Modernity.
This course is a study of classical writings from the Portuguese-speaking world dealing with the issue of modernity, focusing particularly on the Counter-Reformation and Baroque paradigms versus the Enlightenment. Portuguese, Brazilian and African authors such as Aníbal Quijano, Sérgio Buarque de Holanda, Amilcar Cabral and others will be read critically and in a comparative approach. Conducted in Portuguese.
Spr POBS2500D S01 26372 T 6:00-8:30PM (O. Almeida)

POBS 2500F. Tales of the "Sertão".
The reality and mythology of the "sertão" have long been a source of inspiration for Brazilian writers, visual artists, and filmmakers. This seminar considers the transformations of the "sertão" motif since the second half of the nineteenth century. Fiction by José de Alencar, Euclides da Cunha, Graciliano Ramos and João Guimarães Rosa. Films by Glauber Rocha and Sandra Kogut. Conducted in Portuguese.
Spr POBS2500F S01 26271 M 3:00-5:30(13) (L. Valente)

POBS 2970. Preliminary Examination Preparation.
For graduate students who have met the tuition requirement and are paying the registration fee to continue active enrollment while preparing for a preliminary examination.
Fall POBS2970 S01 16162 Arranged 'To Be Arranged'
Spr POBS2970 S01 24904 Arranged 'To Be Arranged'

POBS 2980. Reading and Guided Study.
Reading in Portuguese language, literature, civilization, and bilingual studies. Conducted via Portuguese readings and discussions. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

POBS 2990. Thesis Preparation.
For graduate students who have met the residency requirement and are continuing research on a full time basis.
Fall POBS2990 S01 16163 Arranged 'To Be Arranged'
Spr POBS2990 S01 24905 Arranged 'To Be Arranged'

Public Affairs

Teaches students advocacy and communication skills for social change and examines how individuals and organizations frame issues to effect change. This course provides students with information and insights about public policy advocacy and strategic communication: how effective messages are created and framed, why we respond to messages the way we do, and how to employ advocacy and communications strategies to advance political and public policy goals.
Fall MPA2015 S01 18378 Th 4:00-6:30(04) "To Be Arranged"

MPA 2055. The Politics of Policymaking in Comparative Perspective.
This course provides concepts and tools for thinking critically about the political context in which policy is made and implemented. The course examines the underlying ideas, interests, and historical legacies that make politics and policymaking distinct in different countries and governmental systems. It aims to supply a simple but flexible conceptual toolbox that enables students to define policy challenges as they take shape, propose programs and implement policies that can work in various settings.
Fall MPA2055 S01 17598 T 4:00-6:30(07) (S. Prasad)

MPA 2065. Introduction to Data Science and Programming.
We live in the era of data-driven decision making in all aspects of our lives. The features on your iPhone, the images in an ad campaign, even the background colors on many websites are all carefully tested and chosen against their measurable impact on customer satisfaction, purchasing, clicks, or some other goal. In this course, we will be learning to use and apply those same principles to public policy and government programs. Our goal is to equip MPA students with the tools required to set up experiments, gather data, and begin to evaluate and design public policy and government programs.
Fall MPA2065 S01 18371 Th 4:00-6:30(04) "To Be Arranged"

MPA 2226. Race and Public Policy.
Race and Public Policy is an advanced course about racial bias in U.S. public policy, and the effects of that bias on both practitioners and subjects of public agency activities. You will learn about the process of policy formation and review several important critiques of conventional policy analysis. Substantively, we focus on three key areas: education policy, environmental justice, and police-community relations. During the semester you will engage in small and large group discussions, complete two research assignments, and prepare a final "Race and Policy Project" on a subject of your choosing. Regular attendance, active class participation, and extensive reading are expected.
Fall MPA2226 S01 18487 M 3:00-5:30(03) (D. Blanding)

This class will introduce you to various types of policy stakeholders, from executives to the mass public. You will identify those actors, the combination of authorities, powers, interests, and constraints each one possesses. This framework for viewing stakeholders will enable you to strategize about how to engage different actors when and where they intervene in the policy process. As a policymaker, analyst, or advocate, you will have to contend with stakeholders that possess formal authorities to shape the policy process. These stakeholders will determine whether the problems that concern you reach the agenda; whether your preferred solution is adopted; how that policy solution is implemented; whether it diffuses from one political venue to another; and whether the policy endures, or reshapes politics, succumbs to termination or reform. We will catalog those authorities and powers and observe how they apply in real policy situations.
Fall MPA2229 S01 17964 W 3:00-5:30(10) (D. Blanding)

This course introduces students to concepts and tools relevant to making public decisions informed by social values. It equips students to define problems and to systematically develop and compare policy options available to public actors. In short, the course teaches students to "think like a policy analyst" and reason in the public interest. In addition, the course is attentive to the political and institutional context in which policy decisions are made.
Fall MPA2445 S01 16870 TTh 10:30-11:50(13) "To Be Arranged"

MPA 2451. Exchange Scholar Program.
Fall MPA2451 S01 16143 Arranged 'To Be Arranged'
Spr MPA2451 S01 24891 Arranged 'To Be Arranged'

MPA 2605. Translating Evidence into Economic Policy.
The objective of this course is, precisely, to offer those insights to students interested in a career in policymaking by providing case studies of the most important and challenging policy questions of our lifetimes. By the

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Course Descriptions

end of the course, students will have deepened their understanding of the most important policy challenges from an array of different policy questions and studying the evidence around them, with a special focus on quantitative methods useful to analyze those questions.

Fall MPA2605 S01 18370 M 3:00-5:30(03) (D. Bahar)

MPA 2981. Independent Graduate Study.
This is an independent study course for the MPA program.

Public Health

Generalist Public Health

The objective of the three-course data sequence is for students to develop the knowledge, skills, and perspectives necessary to use data to make public health decisions. These three data courses complement each other, but do not have to be taken in a specific order. In this course, students learn core principles and methods of biostatistics and data analysis as they apply to public health case studies/current real-world examples. This course focuses on statistical principles as well as the applied skills necessary to answer public health questions using data, including the following: data analysis, data interpretation and the presentation of results. This course is intended to teach students both the basic knowledge required to develop and interpret quantitative studies as well as the skills to conduct basic statistical analyses.

Spr GPHP2000 S01 26281 (A. Sullivan)

The objective of the three-course sequence is for students to develop the knowledge, skills, and perspectives necessary to use data to make public health decisions. These three data courses complement each other, but do not have to be taken in a specific order. In this course, students learn core principles and methods of epidemiologic investigations as they apply to public health case studies/current real-world examples. This course focuses on epidemiological methods and principles of study design and data analysis through analyses and critiques of published epidemiological studies as well as hands-on practice through weekly exercises and assignments.

Fall GPHP2010 S01 18043 (H. Ziobrowski)
Spr GPHP2010 S01 26280 (H. Ziobrowski)

GPHP 2300. Social Determinants of Health/Equity in Public Health.
There is mounting support for a social determinants of health approach across the world, from global, sociopolitical commitment to within-country action. In this course, students will examine the inequitable conditions in which people are born, live, work and age and how these conditions are propelled by inequities in power, money, and resources. Students will analyze structural, political, economic factors as well as how resource distribution decisions made outside the health sector contribute to health inequities. In the course, students will also explore innovative ways to reduce health disparities and work toward achieving health equity.

Spr GPHP2300 S01 26276 (J. Nazareno)

GPHP 2320. Evaluation of Public Health Programs.
This course will focus on how public health programs and interventions are evaluated. Students will learn about frequently used methods and planning tools as well as basic principles of budget and resource management to apply them to the development of an evaluation plan. Part of the evaluation is also assessing the impact of structural, socioeconomic, political, and organizational processes on the development, adaptation, implementation, and evaluation of public health programs and interventions.

Spr GPHP2320 S01 26277 (M. Doshi)

GPHP 2410. Comparative Health Care Systems.
This course utilizes a comparative analysis framework for students to gain an understanding of health care systems in various high-income, middle-income, and low-income countries and analyze public health challenges as well as opportunities/strengths at these varying levels of economic development. Students will compare the organization, structure and function of health care, public health, and regulatory systems across national and international settings.

Fall GPHP2410 S01 16917 (M. Harvey)
Spr GPHP2410 S01 26278 (M. Harvey)

Leadership & Practice is part of a two-semester sequence of courses designed for students to develop and refine leadership skills to transition to leadership and management roles. These two courses complement each other, but do not have to be taken in a specific order. A large focus of these two courses is on the role of the students as leaders in their own organizations or in those in which they hope to work in the future. The first part of this course will introduce key ethical frameworks and concepts relevant to leadership in public health. Students will learn to apply ethical principles of public health to core concepts of leadership, governance, and management as well as how to develop vision, strategy and change management. Students will develop strategic plans that identify stakeholders and incorporate metrics to align operational strategies, goals and overarching mission.

Fall GPHP2800 S01 18042 (A. Glazier)
Spr GPHP2800 S01 26282 (A. Glazier)

Effective communication skills are needed by leaders in public health settings. Public Health Communications is designed for students to develop communication skills to prepare them for the breadth of issues related to public health challenges. Students will learn and apply various communication strategies for different audiences and sectors and how to communicate audience-appropriate public health content, both in writing and through oral presentation. Students will learn to develop a communications plan for multiple audiences that addresses misinformation and conflicting data. In addition, students will learn the importance of cultural competence in communicating public health content to decision makers and will develop a public health campaign that demonstrates the utilization of a cultural competency framework.

Fall GPHP2850 S01 18041 (A. Glazier)
Spr GPHP2850 S01 26279 (A. Glazier)

Public Health

Global health refers to the health and wellbeing of all of the world’s populations, regardless of geography, country, or citizenship. Many of today’s most pressing issues, from climate change to political conflict and population displacement, have profound implications for health. This course will introduce students to fundamental topics in global health, and it will encourage them to approach global health issues through a lens of equity and responsibility toward people and populations beyond United States’ borders. Students will develop a framework for understanding contemporary health challenges and learn how responses to these complex problems require collaboration across health and non-health sectors of society. This course will challenge students’ assumptions about world health while strengthening their skills in data literacy and critical analysis.

Fall PHP0060 S01 18006 TTh 1:00-2:20(06) (N. Trivedi)

PHP 0310. Health Care in the United States.
Introduction to the health care delivery system. An overview of the U.S. health care financing, delivery and regulatory system. Considers the interaction between paying for and providing and assuring the quality of health services; changes in one component of the system inevitably affect the others. Addresses the balance between employer funded health insurance, publicly funded health insurance and the consequences of not being insured. Six discussion sections will be arranged. Open to undergraduates only. This is a core class for the concentration in public health.

Fall PHP0310 S01 17986 MWF 10:00-10:50(14) (L. Wilson)

PHP 0850. Fundamentals of Epidemiology.
What is epidemiology? It is the study of the occurrence and distribution of health-related states and processes in specified populations and the application of this knowledge to control health problems. This course will provide learners with a strong foundation in the concepts and methods needed to describe the burden of a disease in communities, identify what causes these poor health outcomes, and evaluate the impacts of interventions meant to improve health.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
This is an advanced introduction to global public health, defining and critically examining key topics and concepts through an interdisciplinary lens. From historical efforts in mid-20th century international health assistance, to the early 21st century explosion of global health funding, to current efforts to decolonize global health and engage in more equitable global partnerships, this course examines major social and scientific developments. Readings, lectures, in-class discussions and small groups explore changes in the underlying causes of morbidity and mortality during global social, economic and health transitions, the biological and social ecology of global disease patterns, and efforts to improve health in under-resourced settings. Guest lecturers offer different perspectives on the global burden of disease. An in-depth research paper worth 40% of the final grade is the scholarly centerpiece of course; this is a rigorous semester-long project. There are two exams.
Fall PHP1070 S01 18028 TTh 9:00-10:20(05) (A. Harrison)

PHP 1100. Comparative Health Care Systems.
Focuses on principles of national health system organization and cross-national comparative analysis. Emphasizes application of comparative models to the analysis of health and health-related systems among nations at varying levels of economic development and health care reform. Addresses research questions related to population health and systems' performance. Enrollment limited to 30.
Fall PHP1100 S01 18007 MW 8:30-9:50(09) (C. Sammartino)

PHP 1300. Parenting Behaviors and Child Health.
Parents play an integral role in developing, supporting, and managing children's health-related behaviors. We will examine how parenting influences child behaviors and health outcomes across development, from infancy through adolescence. We will explore parenting styles, knowledge, attitudes, and practices, including specific behaviors in various domains such as food parenting and sleep parenting. Using sociodemographic models and a community-engaged approach, we will investigate how sociodemographic characteristics, culture, family structure, the physical environment, and other contextual factors impact parenting and subsequently child health behaviors and outcomes. We will discuss of the unique experiences and stressors of diverse and/or non-traditional families including single parent households, families in poverty, LGBT families, and immigrant and/or racial/ethnic minorities. Finally, we will examine parenting as a modifiable intervention target to improve child health. Through it all, students will understand how parenting behaviors shape child health.
Fall PHP1300 S01 18044 M 3:00-5:30(03) (T. von Ash)

PHP 1450. COVID-19, Public Health, and Health Policy.
The impact of COVID-19 on US society has been profound. Caused by the newly emergent SAR-COV2 virus, the pandemic required public health practitioners and healthcare systems to pivot their care and prioritize public safety under challenging circumstances. In the US, local municipalities, state governments, and the federal government developed varying, and at times conflicting, policies to guide the public health response. Using a case-study approach, this course will explore how public health and health policy intersected and clashed in responding to this 100-year pandemic. We will examine how different states and federal agencies responded to COVID-19 and learn from leaders directly involved in the pandemic response.
Fall PHP1450 S01 18008 T 4:00-6:30(07) (S. Rivkees)

PHP 1501. Essentials of Data Analysis.
This course covers the basic concepts of statistics and the statistical methods commonly used in the social sciences and public health with an emphasis on applications to real data. The first half of the course introduces descriptive statistics and the inferential statistical methods of confidence intervals and significance tests. The second half introduces bivariate and multivariate methods, emphasizing contingency table analysis, regression, and analysis of variance. This is designed to be a first course in Statistics. The course is intended for Public Health or Statistics concentrators. Others can register with instructor's permission. There are no prerequisites.
Fall PHP1501 S01 17925 TTh 1:00-2:20(06) (A. Murillo)

PHP 1510. Principles of Biostatistics and Data Analysis.
This course is intended to provide a basic foundation in the methods and applications of biostatistics, and is geared towards the students whose fields of study include a substantial statistical or quantitative component. Ideally, this course is the first in a two-part sequence (the sequel being PHP 1511: Applied Regression), designed to provide students in the public health, biological and life sciences with broad-based exposure to modern methods of biostatistical inference, in addition to an understanding of underlying mathematical principles and motivations.
Fall PHP1510 S01 17929 TTh 10:30-11:50(13) (C. Schmid)

PHP 1550. Substance Use and Vulnerability to Addiction.
This foundational course will examine how to classify substance use, substance misuse, and substance use disorders and how substance use impacts population health, including exacerbating health disparities. We will examine and compare prominent models of why people become addicted to substances. Using the socioecological model as a framework, we will analyze key risk and protective factors for substance misuse including (a) individual factors such as biological susceptibility, personality, and co-occurring psychiatric disorders, (b) interpersonal factors such as peer use and social support, (c) community factors such as access to alternative reinforcers and neighborhood resources, and (d) societal factors such as racism, social and economic inequalities, and stigma around addiction. Using this framework, we will analyze how social determinants of health impact substance use and its negative consequences in marginalized populations.
Fall PHP1550 S01 18029 M 3:00-5:30(03) (R. Cassidy)

PHP 1580. Pandemic Game Changers: Preparing the Next Generation of Decision-Makers for Emerging Bio Threats.
Pandemic Game Changers will examine the public health and public policy issues vital to mitigating pandemic risks. It will afford students opportunities to analyze scenarios, identify and hone policy solutions, and learn how to convince decision-makers to take the steps needed to address the public health crises that pandemics cause. Students will be required to participate in interactive Q&A with field experts, perform a group analysis of an outbreak scenario, make a written and oral analysis of policy solutions for a biosecurity or biosafety risk, and provide a policy memo and persuasive oral briefing outlining views and potential next steps on one specific pandemic-related public policy issue.
Fall PHP1580 S01 18708 F 9:00-11:30 (E. Cameron)

PHP 1680I. Pathology to Power: Disability, Health and Community.
This course offers a comprehensive view of health and community concerns experienced by people with disabilities. Guest speakers, and hands on field research involving interactions with people with disabilities will facilitate the students gaining a multi-layered understanding of the issues faced by people with disabilities and their families.
Fall PHP1680I S01 18030 TTh 2:30-3:50(12) (S. Skeels)

Disasters, natural and anthropogenic, pose significant threats to human security. Effective humanitarian action is important for both short and long-term responses to complex emergencies. The array of factors contributing to the economic and human losses experienced in both natural disasters and complex humanitarian emergencies are vast and complicated, and the strategies employed to mitigate and heal the damage caused by these disturbances must be equal to the task. This course covers diverse topics including the role of NGOs, UN agencies, local governments, peacekeepers and military in humanitarian response; economic impact of humanitarian aid; the evidence base for humanitarian interventions.
Fall PHP18025 S01 18010 TTh 2:30-3:50(12) (A. Levine)

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
also be invited to the class. Undergraduates who have taken PHP 0310 and PHP 0320 and MPH candidates will have priority for enrollment. Unfilled spaces in the class will be available to undergraduates who have not taken PHP 0310 and PHP 0320.

PHP 1880. Meditation, Mindfulness and Health.
This course provides an overview on the relation of meditation and mindfulness (the ability to attend in a nonjudgmental way to one’s own physical and mental processes during ordinary, everyday tasks) with various health outcomes and disease risk factors such as depression, anxiety, diet, substance use, and cardiovascular disease. Mechanisms by which mindfulness may influence health will be addressed. The course will assess studies in the field for methodological rigor, and students will be taught strengths and weaknesses of current research. Students will be taught various mindfulness practices including direct experience with mindfulness meditation.

Fall PHP1880 S01 17976 TTh 2:30-3:50(12) (E. Loucks)

PHP 1890. The Craving Mind.
We are creatures of habit. Driven by biological processes set up to help us survive, our minds are constantly craving experiences and substances—from smartphone to romance to alcohol—and this craving leads to habit formation. This course will explore the behavioral and mental processes that foster craving and consequent habit formation, the impact these have on individual and societal health, and how we can “hack” our own neurobiological reward circuitry using practices such as mindfulness, to foster greater health and wellbeing. Priority given to Public Health concentrators; all others with instructor permission.

Fall PHP1890 S01 18031 W 3:00-5:30(10) (J. Brewer)

This dynamic course is designed to provide an overarching capstone experience to seniors graduating with a bachelor’s degree in Public Health. This class is intended to help students gain in-depth knowledge of public health by utilizing and strengthening both oral and written communication skills. These skills will facilitate communicating with diverse audiences through a variety of media and working in teams. Critical skills such as literature searches, use of bibliographic software, critiquing the literature, working in teams, and writing research papers will be practiced. Current public health topics that are timely will be discussed and public health successes, failures, and areas that need more work and effort will be explored. The course is designed as a seminar emphasizing class discussion, interaction, and debate regarding differing perspectives, as well as in-depth discussion of the assigned readings.

Fall PHP1910 S01 18012 W 3:00-5:30(10) ‘To Be Arranged’

The course provides an overview of social determinants of health. Examples of topics include health effects of educational attainment, social integration, neighborhood socioeconomic characteristics, racial discrimination, gender, income inequality, childhood socioeconomic circumstances, parental neglect, and job strain. Mixed teaching methods are used, including small group discussions, problem-based learning and guest lectures. Open to graduate students and advanced undergraduates. Not taken PHP 0310 and PHP 0320.

Fall PHP1920 S01 18032 M 3:00-5:30(03) (O. Grigsby)

This course is aimed at enhancing the knowledge and skills central to the application of epidemiologic methods to cancer screening, prevention, and control. We will examine cancer incidence and trends in the U.S. and globally, interpret their implication for cancer etiology, and critically analyze current evidence regarding the role of various major risk factors on human cancer risks. The class will focus on the impact of major environmental, occupational, and lifestyle risk factors on cancers of high public health significance.

Fall PHP1964 S01 17977 F 1:00-3:30(08) (T. Zheng)

A special project may be arranged in consultation with an individual faculty sponsor. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
health setting. The second course (PHP 2072) is taken in the Fall of your second year.

Fall PHP2072 S01 18046 T 1:00-2:20(04) (R. Kislak)
Fall PHP2072 S02 18049 T 2:30-3:50(04) (A. Gjelsvik)
Fall PHP2072 S03 18050 T 2:30-3:50 (A. Gjelsvik)

PHP 2090A. Research Grant Writing for Public Health-Part A.
PHP 2090A is the first in a two-course sequence that enables students to gain hands-on experience in creating high-quality, competitive public health research grant applications. The sequence will focus on writing training- and early-career applications tailored to the National Institutes of Health (e.g., F- and K-series grants). In PHP 2090A, students will draft their specific aims with guidance from their mentor(s), obtain foundational knowledge about the NIH grant submission process, learn about the peer review process, understand the content of NIH grant sections, and develop the foundations of their full grant proposals. They will do this through directed readings, pre-recorded lectures, assignments, instructor-led seminars, and consultation with their primary academic mentors. In PHP 2090B, students will develop a full proposal and receive peer and faculty feedback on it.

Fall PHP2090A S01 17978 Th 9:30-12:00(13) (J. Braun)

Epidemiology quantifies the distribution and determinants of health in populations, with the goal of reducing the burden of negative health outcomes. This intensive introductory course is intended to provide graduate students with a strong foundation in key epidemiological concepts and methods so they can be critical consumers and users of epidemiological research. Students will learn the core principles of study design, calculating measures, and appraising and communicating research through lectures and readings of published epidemiological studies as well as applied practice through exercises and assignments. This is a graduate-level course aimed at Masters’ and PhD students. The course is not open to first-year students or sophomores but may be available for advanced undergraduates with the instructor’s permission.

Fall PHP2120 S01 17980 Th 10:30-11:50(13) (M. Lurie)

Epidemiology quantifies the distribution and determinants of health in populations, with the goal of reducing the burden of negative health outcomes. This intensive introductory course is intended to provide graduate students with a solid foundation in epidemiological concepts in relation to public health. They will use this foundation to build a methodological skill set to enable being critical consumers, users, and producers of research. Students will learn the core principles of research design, bias and confounding, and applied public health and be able to apply their knowledge to critically evaluate and synthesize findings from epidemiological studies and begin producing and communicating their own research products. Collaborative learning is a key component of the course design.

Fall PHP2140 S01 18709 TTh 10:30-11:50(13) (S. McBurney)

The overall objective of this course is to provide students with a strong foundation in epidemiologic research methods. This is the first of a two- or four-course sequence in epidemiologic methods aimed at students who expect to eventually conduct their own epidemiologic research. There will be a strong quantitative focus in this course. By the end of the foundations course, students should be sufficiently familiar with epidemiologic research methods to begin to apply these methods to their own work. Prerequisite: PHP 2507 or 2510 (either may be taken concurrently); the typical student will also have some introductory knowledge of epidemiology. Students not in a public health program who have not met the prerequisites may request instructor permission (override) through CAB from the instructor.

Fall PHP2150 S01 17982 TTh 10:30-11:50(13) (B. Marshall)

This second course in epidemiologic methods reinforces the concepts and methods taught in PHP 2150, with in-depth instruction in issues of study design, assessing threats to study validity including confounding and selection bias, and analyzing data with standard regression models. The course emphasizes hands-on learning and includes a combination of didactic lectures, discussions of methodologic papers, and a required laboratory component where students will learn to apply the concepts learned in class to real-world problems. Prerequisites: PHP 2150 and either PHP 2510 or PHP 2507, and PHP 2511 or PHP 2508 (which either can be taken concurrently) or permission of the instructor.

Spr PHP2200 S01 26285 W 2:30-5:00 (N. Joyce)

PHP 2220F. Reproductive and Perinatal Epidemiology.
This course provides an overview of topics related to reproduction, pregnancy, maternal and child outcomes of pregnancy, and long-term consequences related to reproductive health. Methodological issues unique to reproductive and perinatal epidemiology are discussed, as well as general epidemiologic methods as applied to topics in reproductive and perinatal health. Class sessions will include lectures and discussions of published research studies, with active student participation expected. After several introductory lectures, students will select topics and be responsible for organizing a presentation and discussion under the instructor’s supervision.

Fall PHP2220F S01 18052 T 4:00-6:30(07) (B. Berger)

PHP 2250. Advanced Quantitative Methods in Epidemiologic Research.
This course is designed to provide graduate students with a solid foundation in quantitative methods based on scientific and causal theory and causal diagrams (e.g., DAGs) to make causal inference using data obtained from observational studies. Causal diagrams will be used to provide alternative definitions of, provide clarifications regarding, or inform minimizing common biases. Non-, semi-, and fully parametric methods for minimizing bias will be discussed. These methods include standard regression, instrumental variables, propensity scores, inverse probability weighting, and marginal structural models. Settings when such methods may not be appropriate will be emphasized. Prerequisite: PHP 2200 and 2511; or PHP 2200 and 2508; or instructor permission.

Fall PHP2250 S01 17985 TTh 1:00-2:20(06) (C. Howe)

PHP 2260. Applied Epidemiologic Data Analysis.
This course will lead students through the process of writing a journal-style manuscript based on performing applied epidemiologic data analysis using statistical software (i.e., SAS). This course is best suited for students who already have a research idea in mind and data in hand prior to the start of the course or are able to develop a research question based on de-identified publicly available population-based datasets that will be recommended in the course. Course enrollment is restricted to graduate students.

Fall PHP2260 S01 17984 W 9:00-11:30(14) (S. Rosenthal)

This course provides students with fundamental principles of behavioral and social research methodology for understanding the determinants of public health problems, and for executing and testing public health interventions. We will focus on experimental methods, observational studies, and qualitative approaches. We will develop skills in understanding and interpreting data--both quantitative and qualitative. Throughout the course we will emphasize ethical, cultural, and professional issues for designing public health interventions. Prior coursework in research methodology and quantitative methods is recommended but not required. Open to graduate students and advanced undergraduates. Enrollment limited to 15.

Fall PHP2300 S01 18034 Th 4:00-6:30(04) (C. Kahler)

PHP 2340. Behavioral and Social Science Theory for Health Promotion.
This course will help students become familiar with behavioral and social science theories commonly used for planning disease prevention/health promotion interventions. In addition to review of specific theories, topics to be discussed include: how theories are developed and tested; challenges and potential pitfalls in using theory for intervention planning; and creation of causal diagrams based on concepts from theories. Undergraduates need permission of instructor; priority will be for Public Health concentrators. Enrollment limited to 25.

Fall PHP2340 S01 18035 W 9:30-12:00(14) (D. Williams)

PHP 2355. Designing and Evaluating Public Health Interventions.
Previously listed as PHP 1740. Examines health behavior decision-making and elements for design of health promotion interventions. Covers theories of health behavior (focusing on primary and secondary prevention),
principles of intervention design, and reading of research literature. Emphasizes psychological, social, and proximate environmental influences on individuals’ health-related behaviors. Restricted to undergraduates in the AB/MPH program, and graduate students. Prerequisite: PHP 0320 or equivalent. Enrollment limited to 35.

Fall PHP2355 S01 18036 MW 1:00-2:20(08) (P. Risica)

**PHP 2370. Etiology of Substance Use Disorders.**

This course will help students become familiar with behavioral, genetic, neurobiological, and cultural factors related to the onset and course of substance use disorders. In addition to review of specific theories, empirical evidence supporting models will be covered as will the integration of evidence across models. Priority will be given to postdoctoral fellows. BSHS students should take the class for a grade (ABC/NC), special students/postdocs should choose S/NC grade option

Fall PHP2370 S01 18037 T 1:15-3:45(08) (P. Monti)

**PHP 2410E. Medicare: A Data Based Policy Examination.**

This course will explore the role of Medicare as America’s health insurer for the elderly and disabled through the use of real Medicare insurance claims data, examining how Medicare policy changes in financing and regulation have affected the delivery and receipt of medical services. At the end of the course students will: 1) know the history of important Medicare policy changes; 2) be able to construct aggregated patient case mix acuity adjusted measures of provider quality using insurance claims data; 3) be able to conduct policy analyses using Medicare claims data that are sensitive to standardized coding schemes. Enrollment limited to 15 graduate students. Prerequisite: PHP 2120, 2508, or 2510. Instructor permission required.

Fall PHP2410E S01 18014 Th 1:00-3:00(06) (V. Mor)

**PHP 2445. Minding the Gap: The U.S. Healthcare Safety Net.**

The right to access affordable, quality health care in the US is not guaranteed. During our nation’s history, a patchwork quilt of programs, referred to collectively as the safety net, has been crafted to address health care needs for a wide range of people who fall through the cracks. This course examines its structure, function, and effects. We introduce key features of the safety net: access, cost, quality, and outcomes. We pay particular attention to the nation’s largest program, Medicaid. We highlight the unique challenges facing vulnerable groups: legal and illegal immigrants, homeless populations, veterans, and people with disabilities.

Fall PHP2445 S01 18016 TTh 10:30-11:50(13) (T. Shireman)

**PHP 2450. Measuring and Improving the Quality of Health Care.**

The quality of health care in the United States is in urgent need of improvement. This course will focus on the science of measuring and improving the quality of health care. Topics will include quality assessment, patient safety, medical errors, public reporting, financial incentives, organizational change, and health care disparities. Students will engage in a team-based quality improvement project. Open to graduate and medical students only.

Fall PHP2450 S01 18020 M 3:00-5:30(03) "To Be Arranged"

**PHP 2451. Exchange Scholar Program.**

Fall PHP2451 S01 16155 Arranged "To Be Arranged"

**PHP 2455A. Health Services Research Methods I.**

Health services researchers use theories, models, and data to understand the health care system, assess the effectiveness of interventions (at multiple levels of the healthcare system), and inform health policy decisions. This course reviews the application of statistical and epidemiological principles to the design and analysis of health services research studies. The goal is to familiarize students with common study designs and methods in health services research, so that they can critically review the published literature and use these approaches in their own research.

Fall PHP2455A S01 18018 M 1:00-3:00(08) (A. Bilinski)

**PHP 2465A. Introduction to Health Decision Analysis.**

Many decisions in health are value-laden, involve competing objectives, or must be made under uncertainty. Health decision analysis is a structured approach to thinking through such decisional problems. This course introduces decision analysis and cost-effectiveness analysis for public health and clinical problems. It covers basic theory for decisionmaking; principles and techniques for mathematical modeling; and implementation, by analyzing archetypical decisional problems in health. Pre Requisites: Some facility with mathematical notation and basic concepts in probability (advanced undergraduate students can enroll after instructor approval). Recommended course: DATA 1010, MATH 1610, or APMA 1690.

Fall PHP2465A S01 18017 W 1:00-3:30(08) (T. Trikalinos)

**PHP 2507. Biostatistics and Applied Data Analysis I.**

The objective of the year-long, two-course sequence is for students to develop knowledge, skills and perspectives necessary to analyze data to answer public health questions. The year-long sequence focuses on statistical principles as well as the applied skills necessary to answer public health questions using data, including: data acquisition, data analysis, data interpretation and the presentation of results. Using lectures, labs and small group discussions, we focus on evaluating data sources, refining research questions, univariate and bivariate analyses, and presentation of initial results. Prerequisite: understanding of basic math concepts and terms. Enrollment limited to 50 students. Instructor permission required.

Fall PHP2507 S01 18021 T 1:00-2:20(06) (A. Gjelsvik)
Fall PHP2507 S01 18021 W 6:30-8:00PM(06) (A. Gjelsvik)

**PHP 2510. Principles of Biostatistics and Data Analysis.**

Intensive first course in biostatistical methodology, focusing on problems arising in public health, life sciences, and biomedical disciplines. Summarizing and representing data; basic probability; fundamentals of inference; hypothesis testing; likelihood methods. Emphasis for means and proportions; linear regression and analysis of variance; basics of experimental design; nonparametrics; logistic regression. Priority given to students in School of Public Health graduate programs. All others with instructor permission. Undergraduates are encouraged to enroll in PHP1510.

Fall PHP2510 S01 18054 TTh 9:00-10:20(05) (S. Dunsiger)

**PHP 2514. Applied Generalized Linear Models.**

This course provides a survey of generalized linear models (GLMs) for outcomes including continuous, binary, count, survival and correlated data. This course will work through the basic theories of GLMs. Emphasis will be on understanding the implications of this theory and the applications to solving real data problems. Extensive use of computer programming will be required to analyze the data in this class. This course is designed for graduate and advanced undergraduate students who will be analyzing data and want to develop a practical hands on toolkit as well as understanding of the theoretical underpinnings of regression. Non-Biostatistics graduate students who have taken APMA1650, PHP2515, or PHP2520 (or an equivalent course) can request instructor permission to enroll.

Fall PHP2514 S01 17969 TTh 1:00-2:20(06) (S. Chrysanthopoulou)

**PHP 2515. Fundamentals of Probability and Statistical Inference.**

This course will provide an introduction to probability theory, mathematical statistics and their application to biostatistics. The emphasis of the course will be on basic mathematical and probabilistic concepts that form the basis for statistical inference. The course will cover fundamental ideas of probability, some simple statistical models (normal, binomial, exponential and Poisson), sample and population moments, nite and approximate sampling distributions, point and interval estimation, and hypothesis testing. Examples of their use in modeling will also be discussed.

Fall PHP2515 S01 17970 MW 9:00-10:20(09) (A. Ogianisian)

**PHP 2520. Statistical Inference I.**

First of two courses that provide a comprehensive introduction to the theory of modern statistical inference. PHP 2520 presents a survey of fundamental ideas and methods, including sufficiency, likelihood based inference, hypothesis testing, asymptotic theory, and Bayesian inference. Measure theory not required. Open to advanced undergraduates with permission from the instructor.

Fall PHP2520 S01 17971 MW 9:00-10:20(09) (C. Gatsonis)

**PHP 2550. Practical Data Analysis.**

Covers practical skills required for successful analysis of scientific data including statistical programming, data management, exploratory data analysis, simulation and model building and checking. Tools will be developed through a series of case studies based on different types

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of data requiring a variety of statistical methods. Modern regression techniques such as cross-validation, bootstrapping, splines and bias-variance tradeoff will be emphasized. Students should be familiar with statistical inference as well as regression analysis. The course will use the R programming language.

**PHP 2601. Linear Models**
This course will focus on the theory and applications of linear models for continuous responses. Linear models deal with continuously distributed outcomes and assume that the outcomes are linear combinations of observed predictor variables and unknown parameters, to which independently distributed errors are added. Topics include matrix algebra, multivariate normal theory, estimation and inference for linear models, and model diagnostics. Prerequisites: APMA 1650 or 1660, or taking PHP 2520 concurrently.

**PHP 2610. Causal Inference and Missing Data**
Systematic overview of modern statistical methods for handling incomplete data and for drawing causal inferences from "broken experiments" and observational studies. Topics include modeling approaches, propensity score adjustment, instrumental variables, inverse weighting methods and sensitivity analysis. Case studies used throughout to illustrate ideas and concepts. Prerequisite: MATH 1610 or PHP 2511 or PHP 2580.

**PHP 2700. Lessons (Un)Learned in Public Health and Humanitarian Response: A Historical Perspective**
Public health challenges complicate the response to humanitarian crises around the world, including disease outbreaks, war, and forcible displacement. Although the common narrative in our field is that the complex social, political and ideological challenges we’re facing is unprecedented, an examination of the history of public health in acute crises reveals that many of the struggles confronting us today are not entirely novel nor unique. This course posits that public health experts rarely understand the full nature of previous crises, and argues that a better understanding of historical events will improve our response to future crises. Through thoughtful reflection and interactive discussion, we will explore the oft-repeated themes that continue to challenge public health and humanitarian response to this day, and examine the progress we’ve made as a field. Most importantly, we will question why lessons identified so often fail to become lessons learned.

**PHP 2710. Interdisciplinary Perspectives on Disability and Death in the Global South**
The course fosters interdisciplinary critical and integrative thinking and writing about the leading causes of disease, disability and death in low and middle income countries, and potential solutions to prevent and ameliorate these burdens of disease. The first part focuses on measures of population health, health disparities, multi-causal and multi-level thinking, social epidemiology, community interventions and implementation research. These topics provide the fundamental intellectual frameworks for global public health. The second part presents scholars from key disciplinary areas contributing to global health research and practice from many academic units at Brown University. To conclude students present their potential research ideas.

**PHP 2720. Implementing Public Health Programs and Interventions in the Global South**
This course will focus on the theory and methods related to increasing the impact of evidence-based public health interventions and the effectiveness of healthcare delivery in diverse resource-limited settings across the globe. This course will focus on the influence of social, structural, political, and organizational processes on the development, adaptation, implementation, and evaluation of public health interventions in the Global South. We will review the emerging field of implementation science and critically analyze approaches for the evaluation of ongoing global public health programs.

**PHP 2760. Critical Perspectives in Global Health**
An overview of social theory and analytical approaches relevant to the study of global health topics and their social context. Students learn writing skills and analytical tools and methods for in-depth analyses of global health topics, including social science critiques of global health policy and practice. The goal is for students to learn the skills to conduct critical social analysis of global health issues using qualitative or quantitative data, or mixed methods approaches, on topics ranging from patterns of disease prevalence, to health systems functioning, to community-level project implementation and evaluation. Suitable for students writing theses or papers for publication.

**PHP 2980. Graduate Independent Study and Thesis Research**
Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

**PHP 2981. Graduate Independent Study and Thesis Research (half-credit)**
Half-credit independent study research course consisting of 90 credit hours of supervised independent work. Intended for master’s students. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

**PHP 2985. MPH Independent Study for Thesis Preparation and Research**
This optional half credit course may be taken up to two times during preparation for the MPH degree. It provides MPH students with self-directed thesis research and preparation time under the guidance of a thesis advisor. Prior to taking this course the student and advisor must reach agreement as to what constitutes satisfactory completion of the course (e.g., completion of a satisfactory literature review, attainment of specific thesis benchmarks, or completion of the thesis). Please check Banner for the correct section number and CRN to use when registering for this course.

**PHP 2988. SPH Doctoral Teaching Experience (TE)**
The Teaching Experience (TE) independent study is designed to enable graduate students to expand practical teaching skills as course coordinators/instructors under the mentorship of an experienced instructor. While the TE is a primarily a learning opportunity for doctoral students, secondarily, the activities associated with the TE should add value to the class by enhancing the experience of students enrolled in the course and assisting the faculty instructor with administration and delivery of the course. TEs are generally arranged according to student interests and availability and approved by the student’s Graduate Program Coordinator/Instructor. Once approved, a student will register for the independent study section with the instructor teaching the TE-associated course. Students should consult their Graduate Program Handbook for more information.

**PHP 2990. Thesis Preparation**
For graduate students who have met the residency requirement and are continuing research on a full time basis.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Music and Meditation
Music and Meditation explores the contemplative nature of sonic experience from humanistic, artistic and scientific perspectives. By drawing from various traditions across both time and space, and by engaging with a variety of disciplinary methodologies from Contemplative Studies, Ethnomusicology, Religious Studies and Cognitive Science, we will seek to better understand how diverse religious communities have used music as a meditative tool, a mystical philosophy, a communal exercise, a ritual performance, and more. We will examine the philosophies of thinkers, scientists and musicians to investigate music making as both an instrument, and a goal, of contemplative practice. Our investigation will draw on the spontaneous literary outpourings of several mystics including but not limited to: Nammalvar, Andal, Kabir, Mahadeviyakka, Nanak, Mira, Tukkaram, Caitanya, Ramakrishna and Ramana Maharshi.

Cost 0035. Saints and Mystics of India.
Saints and Mystics of India explores the rich variety of religious experience in India as expressed in the inspired poetic productions of several mystics through time. By critically listening to these powerful voices of the past, we shall endeavor to understand how mystical poems from divergent Indian traditions exhibit multiple points of interaction, influence and convergence. We will study how these methods and experiences entail, how to critically appraise them, how to experience them ourselves, and how they influence the development of empathy, health, and well-being. Prerequisites: None. Enrollment limit is 40.

Cost 0120. The Classical Chinese Philosophy of Life.
An introduction to the origins and early development of the indigenous religious thought of China from the oracle bone divination of the Shang Dynasty to the ethical philosophy of Confucianism and the cosmology and mysticism of Daoism. The course will seek to identify and elucidate the basic elements of the distinctive Chinese world view and demonstrate how they have shaped the nature of religious practice and experience and how they have been shaped by them. Works of interpretive scholarship will be used to supplement the primary texts in translation that will form the course. Optional lab section.

Why study food? What can food tell us about religion, politics, and culture? Food in South Asia often shapes identity, social status, ritual purity, religious belonging, and political activism—the notion that you are what you eat has wide currency. Whatever form it takes, food embodies histories of migration, trade, empire, colonialism, and ethics. Through reading primary texts and ethnographic articles, watching films, and (of course) eating delicious food, we will explore the rich foodways of South Asia and their social, religious, and political ramifications.

Karma, Sanskrit for the “action” that makes up a human life, has been a central concern for the religious traditions of South Asia throughout their history. Hinduism, Buddhism and Jainism share the belief that after death people are reborn, taking on lives according to their actions in lives previous. In these traditions, liberation from the cycle of rebirth becomes the ultimate goal of human existence. This course examines the ideas of karma, rebirth and liberation in Hinduism, Buddhism and Jainism from historical, cosmological, ritual, narrative, iconographic and theological points of view. We also look at these issues in Western culture.

Fall Cost 0145 S01 18493 T 4:00-6:30(07) (F. Moore-Gerety)

Cost 0520. Tai Chi, Qigong, and Traditions of Energy Cultivation in China.
In recent years Taijiquan (Tai Chi) and Qigong have become increasingly popular forms of exercise, alternative medicine and contemplative practice. This course aims to provide students with a foundation for understanding these practices through an exploration of their roots in Chinese medicine, philosophy and religion, as well as their more recent history in modern China and the rest of the world. In addition to studying historical and scholarly interpretations of these practices, students will also have the opportunity to learn basic Qigong and Taijiquan in weekly labs.

Fall Cost 0520 S01 16767 F 3:00-5:30(11) (L. Difiori)

“Zen” has become a common trope in modern North American Culture but few people know what the term really means. This course will study Zen’s origins in Indian Perfection of Wisdom teachings, follow its meanderings through China from the legend of Bodhidharma through the Five Houses of Chan, and chart its arrival and developments in Japan and eventual transplanting to the West. We will focus on several key Zen teachers: Huineng and Linji in China, Dōgen, Bankei and Hakuin in Japan. We will also explore the essential technique of kōan meditation and the practice of “just sitting.”

Fall Cost 0555 S01 18466 W 3:00-5:30(10) (H. Roth)

Cost 0560. Contemplation and Social Action.
The spiritual path is often called an inward journey. Practices like contemplation, renunciation, meditation and seclusion are often experienced in isolation with the mind drawn towards the self. This may seem counterproductive to social action, almost selfish, but exemplary spiritual aspirants from across time and space have demonstrated how contemplation can be a powerful medium of social change. By exploring key historical movements (Indian Independence, Abolitionism, Civil Rights) and transformational figures who have embodied the ideals of engaged contemplation (Gautama Buddha, Mohandas K. Gandhi, Martin Luther King, Jr., Thich Nhat Hanh and the Dalai Lama), this course seeks to elucidate relevant ways in which contemplative philosophies and practices can challenge, critique, and ultimately transform the world in which we live by way of peaceful, inclusive and socially engaged means.

Fall Cost 0560 S01 16774 M 3:00-5:30(03) (S. Reddy)

Cost 1082. Me, Myself, and I: Exploring Senses of Self from a Multidisciplinary Perspective.
Human beings have long puzzled over how precisely to conceptualize and understand what and how it is that we are. Questions about the nature of the self have informed the speculations of philosophy, the soteriologies of religion, the trajectories of self-cultivation in contemplative traditions, and the therapeutics of psychology. Recently, cognitive science and phenomenology have developed new explanations for how multiple senses of self shape lived experience and give rise to various self-concepts. Students in this course will engage with dimensions of selfhood that we often take for granted by studying senses of self from multidisciplinary and cross-cultural perspectives.

Fall Cost 1082 S01 16784 Th 4:00-6:30(04) (W. Britton)

Cost Individual Study Project Semester 1, directed reading and research arranged with individual faculty. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

Cost 1920. Individual Study Project - Semester 2.
Cost Individual Study Project Semester 2, directed reading and research arranged with individual faculty. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

Cost 1950. Senior Concentrators' Seminar.
A selection of topical readings that will enable concentrators in the Sciences and Humanities Tracks of the concentration to synthesize their knowledge of the field of Contemplative Studies and its current principal issues. Students will also share ideas and methods regarding the research
and writing of their Capstone Projects, which typically they will be working on concurrently via their other course.

Spr COST 1950 S01 26092 M 3:00-5:30(13) (L. Dilio)

Required of seniors in the honors program, (second semester of two-semester sequence that includes COST 1950 in first semester). Open to others only by permission of the Director. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

Religious Studies

RELS 0014. Jesus.
Who was, and is, Jesus? Who decides? What can we know about the historical Jesus and who he became? In this course, we will begin with the earliest accounts of Jesus as recounted in the canonical gospels and outside it (e.g., the Gospel of Judas). Then we will turn to the many ways that later generations of Christians (both heretical and orthodox) and non-Christians depicted Jesus, especially in art, literature, theology, politics, and entertainment. We will read canonical and non-canonical Christian texts, Jewish accounts of Jesus, the Quran, modern Christian apologetic literature, and analyze films like the Life of Brian.

Fall RELS 0014 S01 16762 MWF 10:00-10:50(14) (J. Han)

RELS 0021. Inequality in the Ancient World.
This course examines the representation of various forms of inequality in the ancient world as well as the range of responses to it by those who resist it and reject it. The axes of inequality we shall investigate vary from culture to culture, but often include the privileging of male/masculine over female/feminine, native over foreign, whole-bodied over “defective,” old over young, ritually pure over polluted, holy over common, rich over poor, free over enslaved, honored over shamed, or the couplings of men and women over male-male or female-female couplings. The course is comparative, with a primary focus on texts and artifacts from ancient Israel and coastal West Asia, Babylon and Assyria, Greece and Rome. Texts we will study include passages from the Hebrew Bible (Old Testament), the Epic of Gilgamesh, Hammurabi’s Laws, the Iliad, Sophocles’ Antigone, and Cicero’s On Friendship. No prerequisites.

Spr RELS 0021 S01 26066 M 3:00-5:30(13) (S. Olyan)

RELS 0032. Music and Meditation.
Music and Meditation explores the contemplative nature of sonic experience from humanistic, artistic and scientific perspectives. By drawing from various traditions across both time and space, and by engaging with a variety of disciplinary methodologies from Contemplative Studies, Ethnomusicology, Religious Studies and Cognitive Science, we will seek to better understand how diverse religious communities have used music as a meditative tool, a mystical philosophy, a communal exercise, a ritual performance, and more. We will examine the philosophies of thinkers, scientists and musicians to investigate music making as both an instrument, and a goal, of contemplative practice.

Spr RELS 0032 S01 26070 T 4:00-6:30(16) (S. Reddy)

RELS 0035. Saints and Mystics of India.
Saints and Mystics of India explores the rich variety of religious experience in India as expressed in the inspired poetic productions of several mystics through time. By critically listening to these powerful voices of the past, we will endeavor to understand how mystical poems from divergent Indian traditions exhibit multiple points of interaction, influence and convergence. Our investigation will draw on the spontaneous literary outpourings of several mystics including but not limited to: Namalvar, Andal, Kabir, Mahadeviyakka, Nanak, Mira, Tukkaram, Caiiyna, Ramakrishna and Ramana Maharshi.

Spr RELS 0035 S01 26071 TTh 10:30-11:50(09) (S. Reddy)

When people call themselves “spiritual but not religious,” what does that mean? This course answers that question by exploring many of the diverse ideas, practices, and desires that the idea of spirituality has included. To see how spirituality has saturated American society, students will examine phenomena such as yoga, hip hop, ghosts, self-help gurus, countercultures, and protest movements. By studying the making of spirituality in the past and present, this course will enable students to recognize how Americans have made sense of their own lives and institutional attachments through shifting concepts of race, pluralism, science, capitalism, secularism, and more.

Spr RELS 0056 S01 26073 TTh 10:00-10:50(14) (L. Dilio)

This course is an introduction to Japanese cultural and aesthetic traditions as represented in literature, the fine arts, gardening, tea practice, and selected martial arts. Readings include translations of classic Japanese works of literature and aesthetic theory, as well as modern interpretive and historical scholarship. Audiovisual materials are used to supplement the readings whenever feasible. Students who have no previous exposure to Japanese studies are welcome; there are no prerequisites. The format of the course is a combination of lecture and discussion.

Fall RELS 0080 S01 16763 TTh 1:00-2:20(06) (J. Sawada)

RELS 0085B. Blues People: Topics in African American Religion and Culture.
African American religious practices and cultural expressions have been a significant force in American culture and a sustaining force for African-Americans. Some have argued there is nothing distinctive about African-American religions, others contend that African American religion is merely a response and a regurgitation of European forms of Christianity, while others have erected strict boundaries about what does and does not constitute black culture and religion. This introductory course will investigate what constitutes African American religion and culture, the social and political impact of African American religion and culture, and their relationship, among other things.

Spr RELS 0085B S01 26074 TTh 1:00-2:20(08) (A. Willis)

RELS 0088. Judaism, Christianity, and Islam.
A survey of the history and major beliefs and rituals of Judaism, Christianity, and Islam, with special attention to issues of contemporary concern. Will serve also to introduce basic methods for studying religion in an academic context.

Spr RELS 0088 S01 26075 TTh 10:30-11:50(09) (M. Satlow)

RELS 0090A. Women and Gender in Ancient Religions.
What was religion like for women in the ancient Mediterranean world? What experiences, emotions, and constraints characterized women’s religious lives? What was public and what was private? What were the family issues involved? How were religions gendered? Were there major differences between religions that included goddesses and priestesses, and those that did not? Were notions of gender fixed or fluid? Could they enable religious freedoms for women? We will explore these and other questions through a consideration of religions Greek, Roman, Jewish, and Christian between roughly 500 BCE and 500 CE, with a focus on the Roman Empire. Discussion

Fall RELS 0090A S01 16764 Th 4:00-6:30(04) (S. Olyan)

RELS 0090B. Indigenous Ecologies.
A collaborative exploration of (mainly North American) Indigenous traditions, practices, and beliefs in relation to ecology. We will learn about a variety of Indigenous environmental perspectives and practices as expressed by Indigenous authors, elders, film producers, and community members. Topics will include: Indigenous knowledge systems, environmental activism, sacred lands, the importance of place, kinship relations to the human and more-than-human, climate change adaptation, storytelling, tribal and food sovereignty, and how settler colonialism and dispossession have affected Indigenous populations in their relation to the environment. Additionally, we will learn about Brown University’s relation to local Indigenous lands and populations, and how Indigenous research methods can inform the Brown community of scholars. Our community of learning will discuss broad topics that relate to life and learning at the University, and will offer guidance and support for students’ first year experience at Brown.

Fall RELS 0090B S01 17952 W 3:00-5:30(10) (M. Cladis)

RELS 0090M. Religion Violence and Media.
One of the most controversial issues in contemporary political discourse is the question of Islamist violence and its relationship to Islamic religion and practice. In this course, we will explore the phenomenon and media representation of radicalization, and their relationship to a number of

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
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institutions and issues, including but not limited to: religious texts, global politics, colonialism, war, and nationalism. The goals of this course are to familiarize students with the historical and discursive issues pertaining to radicalism and religious violence in Islamic and non-Islamic contexts, and to pose questions about what constitutes "radicalism" in a given tradition or cultural context.

Fall RELS0900 S01 17724 M 3:00-5:30(03) (N. Klalek)

RELS 0100. Buddhist Thought, Practice, and Society. From its beginnings to the 21st century. Principal teachings and practices, institutional and social forms, and artistic and iconographical expressions. Fall RELS0100 S01 17260 MWF 2:00-2:50(01) (J. Protass)

RELS 0120. The Classical Chinese Philosophy of Life. An introduction to the origins and early development of the indigenous religious thought of China from the oracle bone divination of the Shang Dynasty to the ethical philosophy of Confucianism and the cosmology and mysticism of Daoism. The course will seek to identify and elucidate the basic elements of the distinctive Chinese world view and demonstrate how they have shaped the nature of religious practice and how they have been shaped by them. Works of interpretive scholarship will be used to supplement the primary texts in translation that will form the course. Optional lab section. Fall RELS0120 S01 16766 MWF 10:00-10:50(14) (L. Difiori)

RELS 0140. Food, Religion and Politics in South Asia. Why study food? What can food tell us about religion, politics, and culture? Food in South Asia often shapes identity, social status, ritual purity, religious belonging, and political activism—the notion that you are what you eat has wide currency. Whatever form it takes, food embodies histories of migration, trade, empire, colonialism, and ethnicities. Through reading primary texts and ethnographic articles, watching films, and (of course) eating delicious food, we will explore the rich foodways of South Asia and their social, religious, and political ramifications. Fall RELS0140 S01 18494 TTh 1:00-2:20(08) (F. Moore-Gerety)

RELS 0145. Karma, Rebirth and Liberation: Life and Death in South Asian Religions. Karma, Sanskrit for the "action" that makes up a human life, has been a central concern for the religious traditions of South Asia throughout their history. Hinduism, Buddhism and Jainism share the belief that after death people are reborn, taking on lives according to their actions in lives previous. In these traditions, liberation from the cycle of rebirth becomes the ultimate goal of human existence. This course examines the ideas of karma, rebirth and liberation in Hinduism, Buddhism and Jainism from historical, cosmological, ritual, narrative, iconographic and theological points of view. We also look at these ideas in Western culture. Fall RELS0145 S01 18496 T 4:00-5:30(07) (F. Moore-Gerety)

RELS 0260. Religion Gone Wild: Spirituality and the Environment. A study of the dynamic relation between religion and "nature" or the more-than-human world. Religion, in this course, includes forms of religion within and outside the bounds of conventional religious traditions. In this course, religion includes Buddhism, Christianity, and Aboriginal religion, but also ecofeminism, nature literature, and environmentalism. Topics in this study of religion, ethics, and environmental humanities include: religious depictions of humans in relation to "nature" and the more-than-human; the contribution of religions to environmental degradation and environmental health; religion and environmental justice; and North American and Australian indigenous eco-spiritual perspectives. Spr RELS0260 S01 26076 TTh 2:30-3:50(11) (M. Cladis)

RELS 0340. Kabbalah: An Introduction to Jewish Mysticism. In the 12th and 13th centuries, new ways of approaching Judaism sprung up in France and Spain that would come to be known as "kabbalah." These new approaches expressed aspirations for mystical illumination and elaborated vast mythological narratives about divine and demonic beings. The kabbalists radically departed from the then-conventional understandings of Judaism, particularly those of philosophers like Maimonides. However, they also claimed to find their new worldviews in the tradition's most ancient texts. This course will introduce students to kabbalah's foundning period, focusing on primary texts (in translation), especially the Zohar, the magnum opus of classical kabbalah. Spr RELS0340 S01 26077 W 3:00-5:30(10) (N. Berman)

RELS 0420. Sacred Bodies. How did ancient Christians understand physical holiness? What did the bodies of saints demonstrate or reveal? How was bodily sanctity represented in actual practices, and in literary, artistic, or ritual expressions? We will consider three broad categories of saints: desert heroes, holy women, and virtuosos (pillar saints, holy fools). Spr RELS0420 S01 26078 TTh 10:30-11:50(09) (S. Harvey)

RELS 0520. Tai Chi, Qigong, and Traditions of Energy Cultivation in China. In recent years Taijiquan (Tai Chi) and Qigong have become increasingly popular forms of exercise, alternative medicine and contemplative practice. This course aims to provide students with a foundation for understanding these practices through an exploration of their roots in Chinese medicine, philosophy and religion, as well as their more recent history in modern China and the rest of the world. In addition to studying historical and scholarly interpretations of these practices, students will also have the opportunity to learn basic Qigong and Taijiquan in weekly labs. Fall RELS0520 S01 16769 F 3:00-5:30(11) (L. Difiori)

RELS 0555. Zen: An Introduction. "Zen" has become a common trope in modern North American Culture by few people know what the term really means. This course will study Zen's origins in Indian Perfection of Wisdom teachings, follow its meanderings through China from the legend of Bodhidharma through the Five Houses of Chan, and chart its arrival and developments in Japan and eventual transplanting to the West. We will focus on several important Zen teachers: Huineng and Linji in China, Dōgen, Bankei and Hakuin in Japan. We will also explore the essential technique of kōan meditation and the practice of "just sitting." Fall RELS0555 S01 18469 W 3:00-5:30(10) (H. Roh)

RELS 0560. Contemplation and Social Action. The spiritual path is often called an inward journey. Practices like contemplation, renunciation, meditation and seclusion are often experienced in isolation with the mind drawn towards the self. This may seem counterproductive to social action, almost selfish, but exemplary spiritual aspirants from across time and space have demonstrated how contemplation can be a powerful medium of social change. By exploring key historical movements (Indian Independence, Abolitionism, Civil Rights) and transformational figures who have embodied the ideals of engaged contemplation (Gautama Buddha, Mohandas K. Gandhi, Martin Luther King, Jr., Thich Nhat Hanh and the Dalai Lama), this course seeks to elucidate relevant ways in which contemplative philosophies and practices can challenge, critique, and ultimately transform the world in which we live by way of peaceful, inclusive and socially engaged means.

Fall RELS0560 S01 16773 M 3:00-5:30(03) (S. Reddy)

RELS 0750. Law and Religion. In our arguably "post-secular" age, conflicts over the relationship between religion and law have again moved to the forefront of international debate. In a multicultural and globalized world, such conflicts often provoke contestation over the very possibility of universal definitions of either "religion" or "law," let alone their proper relationship. Our interdisciplinary inquiries on these questions will include concrete legal disputes in domestic and international courts; theoretical debates over the construction of "religion" in fields such as anthropology, religious studies, and philosophy; and historiographical controversies about the relationship between "secularization" and sovereignty, particularly in light of the legacy of colonialism.

Fall RELS0750 S01 16775 TTh 2:30-3:50(12) (N. Berman)

RELS 0800. Death: Religion, Philosophy, Law. Profound meditations on human life always confront its perhaps most baffling feature: death. We will study human mortality from a variety of perspectives, highlighting the powerful implications of death for the living. These include religious perspectives, with their paradox of the quest of mortal beings for the infinite, as well as of life after death; philosophical perspectives, with their insistence on confronting death for an authentic life; legal perspectives, with their enforcement of the intent of the deceased in the lives of survivors. That "our little life is rounded with a sleep" (Shakespeare) will be our central mystery.

Spr RELS0800 S01 26081 TTh 2:30-3:50(11) (N. Berman)
RELS 0821. Black Religion and Media in America.
The religious lives of Black people have been represented across media forms for centuries. This course surveys the history and practice of this phenomenon. Paying special attention to print, film, radio, television, and social media, this class examines how Black religious actors use media to articulate the boundaries of blackness and religiosity; how religion and media have been integral to Black people’s calls for equity and inclusion in American society; and how popular images of Black faith continue to inform cultural discourse on race, religion, gender, class, sexuality, and citizenship.
Spr RELS0821 S01 26082 Th 4:00-6:30(17) (K. Street)

Intensive introduction to classical and contemporary theories of religion and the principal methods for the study of religion. Junior seminar for religious studies concentrators. Enrollment limited to 25.
Fall RELS1000 S01 16777 M 3:00-5:30(03) (K. Street)

RELS 1325E. Ecotheology in Ancient Christianity.
How did early Christians understand the relationship of humanity to the natural world, the animal kingdom, and the created order? What were the obligations and responsibilities of Christians regarding care for the world? How did they manifest a relationship to God? A study of the ancient Christian conception of humanity’s place in the cosmos, as lived out in the daily life of the Christians in the Roman Empire. The course will focus on the first seven centuries, with attention to how legalism and ascendency reshaped Christian ideas on these matters. Seminar.
Fall RELS1325E S01 18099 Th 1:00-2:20(06) (S. Harvey)

RELS 1330A. The Life and Afterlives of the Apostle Paul.
While the writings of the Apostle Paul are commonly understood as early Christian scriptures, the Apostle Paul never converted to “Christianity.” He was and remained Jewish. We must therefore reexamine his writings within his Jewish context, not apart from it. We also need to see how the earliest “Christians” talked about Paul within the context of an emerging “Christianity.” In this course, we will first dive into both the authentic and spurious letters of Paul in the New Testament. We will then turn to the figure of Paul in later Christian texts, both canonical and non-canonical.
Spr RELS1330A S01 26083 M 3:00-5:30(13) (J. Han)

RELS 1380A. Money, Media, and Religion.
This course explores the relationship between religious life, forms of capitalism, and media technologies in the history of the United States. From constructing buildings and printing texts to disseminating teachings and communicating with members: essential aspects of religious life require both money and media. Yet forms of money and media continually have changed, and those changes have taken shape in dialogue with religious beliefs, practices, and sensibilities. This seminar examines this dialogue by visiting such varied sites as Puritan marketplaces, Saint-Claude displays, Bible factories, television talk shows, and Occupie protests.
Spr RELS1380A S01 26084 W 3:00-5:30(10) (D. Vac"a)

RELS 1380D. Religious Experience in a Secular World.
All of the major religious traditions assign significance to religious or mystical experiences. Is there a place for such experiences outside of traditional religion? Even deeply religious societies like the United States have become far more pluralistic, with growing numbers of atheists, agnostics, and people unaffiliated with traditional religion communities. Many of these nevertheless regard spirituality and spiritual experiences as important aspects of their lives. This class will examine a range of different kinds of experiences that resemble those of traditional religions, but without presupposing supernatural or transcendent entities. We will look at experiences such as wonder and awe, ecstasy, contemplation, union, beauty, and love, with a special interest in the role such experiences might play in our moral and political lives.
Spr RELS1380D S01 26167 Th 4:00-6:30(17) (S. Bush)

RELS 1425. Buddhist Poetry.
This course surveys Asian and Anglophone literary cultures that emerged in response to Buddhist teachings and practices. Through close reading, we will engage epic poetry celebrating the Buddha’s life; verses in Buddhist scripture; the landscape poetry of Chinese hermits; the poetry of early nuns; Japanese poems of spiritual travel; American beatniks; and contemporary Taiwanese poetry. All readings are available in English. Students may complete a creative or imitative project, an original translation, or a research paper for the final project.
Spr RELS1425 S01 26085 F 3:00-5:30(15) (J. Protass)

RELS 1440A. Japanese Buddhism.
An exploration of key ideas and debates in the study of Japanese Buddhism. Influential paradigms of medieval Japanese Buddhism, including “original enlightenment,” “transfer of merit,” and “harmonization of gods and buddhas,” will be brought into conversation with aspects of Japanese religious life in premodern and modern contexts, such as healing; care of the dead; bodily self-denial; and ritual uses of language. Materials include primary texts in English translation, modern secondary interpretations, and related literary and visual expressions.
Fall RELS1440A S01 16780 W 3:00-5:30(10) (J. Sawada)

RELS 1990. Individual Study Project.
Directed reading and research arranged with individual faculty. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

RELS 1995. Senior Capstone Seminar.
This course is a culminating experience for the Religious Studies concentration. While introductory gateway courses introduced concentrators to the discipline and upper-level courses examined particular topics or methodologies, this capstone seminar provides concentrators with an opportunity to synthesize what they have learned, while also delving more deeply into the themes and topics that they find most central to their own interests. Thesis writers receive support including small group interaction and supportive criticism. Non-thesis writers create a capstone portfolio over the course of the semester. Through activities and guest presentations, all concentrators will connect their studies to their future goals.
Fall RELS1995 S01 16781 Th 4:00-6:30(04) (J. Protass)

Required of seniors in the honors program. Open to others only by permission of the chair of the department. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

This seminar introduces the academic study of religion as a discipline by historicizing its emergence. The course engages both historical materials and recent critical engagements with these histories. Through critical reflection on the discipline, it attends explicitly to questions around race, gender, sexuality, and empire.
Fall RELS2000A S01 16782 M 12:00-2:30(15) (D. Vaca)

RELS 2055. Reality, Rhetoric and Religion in Late Antiquity.
Over the past few decades, the study of Judaism and Christianity in the Late Antique Roman Empire, and to an extent, the Sasanian Empire, has undergone its own version of the “linguistic turn.” This resulted in conceptions of textuality as inevitably rhetorical and performative (in a broad sense) rather than necessarily referential or descriptive of realities “behind” the text. Thus, one encounters terms like “rhetorical Jews” or “rhetorical Christians” and witnesses the dissolution of once-stable categories like “Gnosticism,” “history,” and indeed, even “Judaism” and “Christianity.” This graduate level course will seek to locate this trend within the broader world of humanistic inquiry, read through important secondary literature that encourages these trends along with the primary texts that anchor its analysis, and theorize alongside other contemporary scholars for ways ‘beyond’ and/or ‘through’ the “turn.”
Spr RELS2055 S01 26265 M 12:00-2:30 (J. Han)

RELS 2400L. Topics in Islamic Studies: Methods and Theories.
This graduate level course is survey of recent theoretical infusions into the academic study of Islam. We will examine paradigm shifting works, mainly from the last decade or so, and consider them within the broader context of contemporary historiography, methods, and theory. This course is designed for graduate students in order to aid them as they craft their own research agendas.
Fall RELS2400L S01 16783 W 3:00-5:30(10) (N. Khaliek)

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
RELS 2450. Exchange Scholar Program.
Fall RELS2450 S01 16166 Arranged ‘To Be Arranged’
Fall RELS2450 S02 16167 Arranged ‘To Be Arranged’
Spr RELS2450 S01 24008 Arranged ‘To Be Arranged’

RELS 2460. Professionalization Seminar.
In addition to acquiring and practicing the arts of scholarship, teaching, and service, graduate students need to learn how to relate to colleagues, apply and interview for jobs, and submit proposals to conferences and publishers. The details of these processes are often mysterious, even to the initiated. The purpose of this seminar is to explore these various features of academia and graduate studies in a well informed manner. It is intended for fourth-year doctoral students in the Department of Religious Studies. Instructor permission required.

RELS 2600N. Religion and Ethical Formation.
Moral perfectionists see the principal moral task, whether individualistic or collective, as the effort to improve one’s character. An important strain of democratic theory holds that citizenship involves a shared pursuit of democratic qualities of thought, feeling, and action. Others think that perfectionism is only suitable for morality, not politics. For Plato and those influenced by him, beauty and desire are central to the process of moral formation. Others emphasize the importance of community as a context for moral improvement, and some point to the special significance of exemplars. This class will explore these themes, with readings such as: Plato, Emerson, Weil, Murdoch, Whitman, Nussbaum, Nehamas, and Cavell.

Fall RELS2600NS01 17905 W 12:00-2:30(15) (S. Bush)

RELS 2890. Preliminary Examination Preparation.
For graduate students who have met the tuition requirement and are paying the registration fee to continue active enrollment while preparing for preliminary examinations.
Fall RELS2890 S01 16168 Arranged ‘To Be Arranged’
Spr RELS2890 S01 24009 Arranged ‘To Be Arranged’

RELS 2910. Independent Research.
The staff is willing to offer independent reading courses in selected areas. See the Instructor for more information. Please check Banner for the correct section number and CRN to use when registering.

RELS 2990. Thesis Preparation.
For graduate students who have met the residency requirement and are continuing research on a full time basis.
Fall RELS2990 S01 16169 Arranged ‘To Be Arranged’
Spr RELS2990 S01 24910 Arranged ‘To Be Arranged’

South Asian Studies
Section numbers vary by instructor. Please check CAB for the correct section number and CRN to use when registering for this course.

SAST XLIST. Courses of Interest to Concentrators.

Science, Technology and Society
STS 0702. Invisible Labor in the Making of Science.
Invisible Labor in the Making of Science is about the people who are concealed, eclipsed, or anonymized in accounts of scientific research. Many scientific workers—including translators, activists, archivists, technicians, curators, and ethics review boards—are absent in publications and omitted from stories of discovery. Professional scientists are often celebrated, yet they are expected to uphold principles of ‘objective’ self-denial. This course will explore these silences and omissions to reveal how invisibilities have shaped twentieth and twenty-first century science. The course modules invite comparisons across geographic, temporal, and disciplinary boundaries. The modules also facilitate different forms of self-reflexive practice, and will open the possibilities of research avenues for students; how we should approach research and narrative method; and how contemporary interest in invisible labor relates to established discursive traditions in the historiography of science and STS.

Spr STS0702 S01 25269 TTh 10:30-11:50(09) (X. Chacko)

STS 1000. Introduction to Science, Technology and Society: Theories and Controversies.
What is “science”? How do scientific ideas become knowledge? What is the nature of scientific objectivity, how can it be compromised? What is a scientific community, scientific consensus, and scientific authority? What roles does science play in our culture, and how is science related to other social institutions and practices? The interdisciplinary field of science studies is introduced through exploration of topics that include: gender and race, psychiatric classification, the drug industry, science and religion, and the use of nuclear weapons during World War II. Enrollment limited to 30 sophomores, juniors, seniors; others may enroll with permission of instructor.

Spr STS1000 S01 25257 TTh 2:30-3:50(11) ‘To Be Arranged’

STS 1700T. Race, Gender, and Technology in Everyday Life.
This course investigates how preferences for certain technologies are shaped by social arrangements that reflect power relations. By considering the origins, materiality, and practices of use for a diverse range of technologies, from the digital to the reproductive, this course will interrogate the socio-political and ethical fallout of consumer, infrastructural, personal, legal, and medical technologies. Reading about the history and anthropology of technology, watching films that engage the reception and making of science and technology, and imagining the future of technological solutions, this course analyzes how technologies are used to create and maintain boundaries around social categories of race, nation, sex, gender, and ability.

Fall STS1700T S01 16706 TTh 10:30-11:50(13) (X. Chacko)

STS 1900. Senior Seminar in Science, Technology and Society.
This is an advanced seminar that uses a Problem Based Learning style pedagogy to explore real-world problems in STS. To solve assigned problems students will want to explore critical scholarship in areas such as laboratory studies, feminist science and technology studies, the rhetoric and discourse of science and technology, expertise and the public understanding of science. Course is intended for Science and Society senior concentrators, but is open to others with appropriate background. Enrollment limited to 20.

Fall STS1900 S01 16614 W 3:00-5:30(10) (X. Chacko)

Independent reading and research work in Science and Society is available to students who have completed introductory and intermediate level work in Science and Society. A decision to enroll must be made via consultation with the concentration advisor and the faculty advisor for the course. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course. Prerequisite: STS 1400. Open to junior and senior concentrators in Science and Society; instructor permission required.

Independent reading and research work in Science and Society is available to students who have completed introductory and intermediate level work in Science and Society. A decision to enroll must be made via consultation with the concentration advisor and the faculty advisor for the course. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course. Prerequisite: STS 1400. Open to junior and senior concentrators in Science and Society; instructor permission required.

Slavic Languages
Czech
CZCH 0100. Introductory Czech.
Introduces the performance of basic tasks in Standard Czech, highlights of Czech culture, and a worldview of a nation uniquely located on the threshold of western and eastern Europe. Emphasis on oral communication. Five meetings per week and use of audio/visual materials. Enrollment limited to 15.

Spr CZCH0100 S01 26174 TTh 10:30-11:50(09) (M. Fidler)
Spr CZCH0100 S01 26174 M 11:00-11:50(09) (M. Fidler)

CZCH 0200. Introductory Czech.
Introduces the performance of basic tasks in Standard Czech, highlights of Czech culture, and a worldview of a nation uniquely located on

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the threshold of western and eastern Europe. Emphasis on oral communication. CZCH 0200 includes readings of annotated literary texts on the Web. Five meetings per week and use of audio/visual materials. Enrollment limited to 18.

Fall CZCH0200 S01 17908 TTh 10:30-11:50(16) (M. Fidler)
Fall CZCH0200 S01 17908 M 11:00-11:50(16) (M. Fidler)

CZCH 1000. Dimensions of Czech Animation: Contexts, Interpretations, and Dialogues with the East.
What are our expectations of animation films? This course will help you rethink and learn to "read" animation as an artistic and politically inspired form. Czech animation, with its long tradition and international reputation, is a vibrant branch of visual arts. Yet this artistic form has not only been extensively studied nor noticed until recently. We will study cultural-historical contexts that gave rise to the internationally acclaimed Czech animation by Trnka, Svankmajer and others. Fascination with Czech animation in Japan used as an example to illustrate the mechanism of cross-cultural reception of Czech animation. Readings of related Czech culture/metaphor/animation techniques. Selected Japanese animation films will also be discussed. Readings in English. Films are dubbed or subtitled in English. No prerequisites.

Fall CZCH1000 S01 18767 M 3:00-5:30(03) (M. Fidler)

Polish

PLSH 0100. Introductory Polish.
Introduction to Polish language and culture. Oral and written communication in Polish; emphasis on the literary and everyday culture of Poland. Five meetings per week, plus use of audio, video, and web materials. Enrollment limited to 18.

Fall PLSH0100 S01 17911 MTHF 12:00-12:50(15) (P. Duda)

PLSH 0200. Introductory Polish.
This course is a continuation of PLSH 0100 or the equivalent, and it aims to establish essential "survival skills" that are needed in real-life situations. The primary focus is building vocabulary, reading, and engaging in guided conversation. In addition to learning the language, students are introduced to Polish literature and culture through film, music, and video presentations.

Spr PLSH0200 S01 26164 MTHF 12:00-12:50 (P. Duda)

Russian

RUSS 0100. Introductory Russian.
Introduction to Russian language and culture. Oral and written communication in Russian; emphasis on the literary and everyday culture of Russia and the former U.S.S.R., including the changes that have reshaped everyday life for citizens of Russia. Five meetings per week, plus use of audio, video, and web materials. Enrollment limited to 18.

Fall RUSS0100 S01 17895 MWF 11:00-11:50(07) (L. deBenedette)
Fall RUSS0100 S01 17895 TTh 12:00-12:50(07) (L. deBenedette)
Fall RUSS0100 S02 17897 MWF 12:00-12:50(07) (L. deBenedette)
Fall RUSS0100 S02 17897 TTh 12:00-12:50(07) (L. deBenedette)

RUSS 0110. Intensive Russian.
Intensively-paced introduction to Russian culture and language; completes one year of study in one semester (RUSS 0110 = RUSS 0100-0200). Comprehension and use of contemporary Russian; fundamentals of Russian grammar; vocabulary acquisition; focus on oral communication. Introduces aspects of everyday culture of Russia and the former U.S.S.R. Ten to fifteen hours weekly outside the classroom. Enrollment limited to 18.

Spr RUSS0110 S01 26173 T 9:00-10:20(03) (L. deBenedette)
Spr RUSS0110 S01 26173 MWF 12:00-12:50(03) (L. deBenedette)
Spr RUSS0110 S01 26173 MWF 10:00-10:50(03) (L. deBenedette)

RUSS 0200. Introductory Russian.
Introduction to Russian language and culture. Oral and written communication in Russian; emphasis on the culture of Russia and the former U.S.S.R., including the changes that have reshaped everyday life for citizens of Russia. Five meetings per week, plus use of audio, video, and Web materials. Prerequisite: RUSS 0100 or RUSS 0250. Enrollment limited to 18.

Spr RUSS0200 S01 26182 MWF 11:00-11:50(04) (L. deBenedette)
Spr RUSS0200 S01 26182 TTh 12:00-12:50(04) (L. deBenedette)
Spr RUSS0200 S02 26186 MWF 12:00-12:50(01) (L. deBenedette)
Spr RUSS0200 S02 26186 TTh 12:00-12:50(01) (L. deBenedette)

RUSS 0300. Intermediate Russian.
Continues development of language proficiency while broadening understanding of contemporary Russian culture via readings in literature and history. Expansion of vocabulary for dealing with conversational topics and review of Russian grammar. Features literary and nonliterary readings in Russian, as well as video and computer resources. Five class meetings per week. Prerequisite: RUSS 0110 or RUSS 0200 or RUSS 0250 or placement by exam. Enrollment limited to 18.

Fall RUSS0300 S01 17898 MWF 11:00-11:50(04) (L. deBenedette)
Fall RUSS0300 S01 17898 TTh 11:00-11:50(04) (L. deBenedette)
Fall RUSS0300 S02 17899 MWF 12:00-12:50(04) (L. deBenedette)
Fall RUSS0300 S02 17899 TTh 12:00-12:50(04) (L. deBenedette)

RUSS 0320A. Dostoevsky's "The Brothers Karamazov" - The Art of the Novel.
An in-depth analysis of Dostoevsky's last novel as the culmination of his art and thought. Central religious and philosophical themes of the novel, such as the relations of faith to morality, modes of transgression, retribution, and epiphany, the question of theodicy, and the nature of authority. Discussion of Dostoevsky's poetics and of his contribution to the genre of the novel. Readings from literary criticism and from other pertinent literary texts, such as the Bible, Schiller, and Voltaire will also be discussed. In English. Enrollment limited to 19 first year students.

Fall RUSS0320AS01 17833 M 3:00-5:30(03) (E. Evdokimova)

RUSS 0320E. Crime and Punishment through Literature.
The seminar will explore how texts of different epochs and cultures, ranging from Ancient to Modern and from drama to poem, novel, and film treat the issues of transgression, punishment, justice, and forgiveness. We will examine each text both in terms of its artistic merit and its place within its cultural and historical milieu. Enrollment limited to 19 first-year students.

Spr RUSS0320ES01 26168 W 3:00-5:30(10) (V. Golezint)

RUSS 0400. Intermediate Russian.
Continues development of language proficiency while broadening understanding of Russian culture via readings in literature and history. Includes expansion of vocabulary for dealing with conversational topics and review of Russian grammar. Features literary and nonliterary readings in Russian, as well as video and computer resources. Five class meetings per week. Prerequisite: RUSS 0300 or placement by exam. Enrollment limited to 18.

Fall RUSS0400 S01 26269 MWF 11:00-11:50(04) (L. deBenedette)
Spr RUSS0400 S01 26269 TTh 11:00-11:50(04) (L. deBenedette)
Spr RUSS0400 S02 26270 MWF 12:00-12:50(01) (L. deBenedette)
Spr RUSS0400 S02 26270 TTh 12:00-12:50(01) (L. deBenedette)

RUSS 0500. Advanced Russian.
Examines selected topics in Russian culture and history as depicted in readings, the media, and Russian and Soviet films. Language work emphasizes increasing facility with spoken Russian and developing writing skills. Includes work on advanced grammar and syntax. Five class meetings per week. Prerequisites: RUSS 0350 or RUSS 0400 or placement. Enrollment limited to 18.

Fall RUSS0500 S01 17900 MWF 1:00-1:50(08) (L. deBenedette)

RUSS 0600. Advanced Russian.
Examines selected topics in Russian culture and history as depicted in readings, the media, and Russian and Soviet films. Language work emphasizes increasing facility with spoken Russian and developing writing skills. Includes work on advanced grammar and syntax. Four class meetings per week. Prerequisites: RUSS 0500 or placement. Enrollment limited to 18.

Spr RUSS0600 S01 26180 MWF 1:00-1:50(06) (L. deBenedette)

RUSS 1110. Special Topics in Russian Studies I: Advanced Reading and Conversation.
An advanced course recommended for students who are either planning to go or are returning from abroad. Focus on Russian culture as seen through the prism of Russian poetry. Extensive classroom discussion
and frequent writing assignments. Prerequisite: RUSS 6060 or written permission. May be repeated once with permission from the instructor. Enrollment limited to 18.

Fall RUSS1110 S01 17907 MWF 12:00-12:50(15) (V. Richter)

RUSS 1250. Russian Cinema.
This seminar will provide a chronological overview of Russian cinema from its beginning to the present. The films will be considered against the background of some historical, political, and theoretical readings. The students will also be encouraged to juxtapose Russian and non-Russian films in order to evaluate the place of Russian cinema within a global film culture. Enrollment limited to 20.

Fall RUSS1250 S01 17919 W 3:00-5:30(10) (V. Golstein)

RUSS 1290. Russian Literature in Translation I: Pushkin to Dostoevsky.
Survey of Russia’s literary masterpieces of the early and mid-19th century, including Pushkin, Lermontov, Gogol, Turgenev, and Dostoevsky. From Pushkin’s celebrated poem “The Bronze Horseman” and his novel in verse ‘Eugene Onegin’ to Gogol’s grotesque and fantastic Peterburg tales and Dostoevsky’s ‘Crime and Punishment,’ we will discuss questions of national identity and Empire, individual vs. the state, as well as other moral, political and philosophical issues that shaped Russian classical texts. Lectures and discussion. No knowledge of Russian is required.

Fall RUSS1290 S01 17951 TTh 2:30-3:50(12) (S. Evdokimova)

After the October Revolution of 1917, Soviet society became gradually split into official culture, dissidence, and the underground. Authors who did not conform to the limitations imposed by Soviet institutions often circulated their works illegitimately or published them abroad. Some of them were forced to emigrate. This course explores the complex intersections of propaganda, dissidence, and underground in Soviet literature, art, and film.

Spr RUSS1330 S01 26169 Th 4:00-6:00(17) (F. Fenghi)

RUSS 1340. The Russian Novel.
When one considers the impact of Russian literature on world literature, one thinks first of all of the novel. And indeed, since the late nineteenth century its readers all over the world could not resist its artistic powers. The course explores selected Russian novels from the nineteenth- to the twenty-first century. Our in-depth (slow) reading and discussions will be guided by the questions concerning the stylistic peculiarities of the novel, and its development in changing historical and cultural contexts. The course includes: Gogol’s Dead Souls, Goncharov’s Oblomov, Dostoevsky’s Idiot, Bely’s Petersburg, Nabokov’s Mary, Platonov’s Chevengur, among others.

Spr RUSS1340 S01 26172 TTh 2:30-3:50(11) (M. Oklot)

RUSS 1440. Imagining Moscow: Utopia and Urban Spaces in 20th-Century Russian Culture.
The course explores the role of Moscow in the Russian collective imagery throughout the 20th century. We will study how different utopian visions of the city in art, literature, film, and architecture affected the radical transformations of its urban landscape from the October Revolution to the present. We will start with the 1920s and 1930s, when the image of a new Moscow became closely associated with the creation of new socialist ways of life, and conclude with the neoliberal facelift of the city in the post-Soviet period, retracing a history of 20th-century Russian culture through its urban imagination.

Fall RUSS1440 S01 17892 TTh 1:00-2:00(6) (F. Fenghi)

RUSS 1810. Tolstoy.
Close readings of Tolstoy’s major novels (War and Peace and Anna Karenina, in particular) and shorter narratives with special emphasis on his

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SLAV 1981. Independent Research in the Slavic Language(s). Independent research on various topics in Slavic cultures. Reading, discussion, research must be done in the chosen Slavic language (Czech/Russian). Close work with faculty on project is expected. Prerequisites: minimum RUSS0600/CZCH 0610 (3rd year-level) or placement evaluation by Russian or Czech language coordinator. Enrollment permitted only after the written proposal (instructions in the department office) is submitted to the Concentration Advisor and Chair of the department (deadline: the last day of Add a course without fee period during the semester when the project is undertaken). Each section limited to 10 students; instructor permission required.

SLAV 1990. Senior Thesis. Only for Slavic concentrators writing their senior theses. For requirements and schedule, contact the department. Each section limited to 10 senior Slavic Studies concentrators.

SLAV 2450. Exchange Scholar Program. For graduate students who have met the tuition requirement and are paying the registration fee to continue active enrollment while preparing for a preliminary examination.

SLAV 2970. Preliminary Examination Preparation. For graduate students who have met the tuition requirement and are paying the registration fee to continue active enrollment while preparing for a preliminary examination.

SLAV 2980. Advanced Reading and Research. Only for graduate students. Independent research project on topics in Slavic Studies. Enrollment permitted only after the written proposal (instructions in the department office) is submitted to the DGS and Chair of the department (deadline: the last day of Add a course without fee period during the semester when the project is undertaken). Please check Banner for the correct section number and CRN to use when registering for this course. Each section limited to 10 students; instructor permission required.

SLAV 2990. Thesis Preparation. For graduate students who have met the residency requirement and are continuing research on a full time basis.

SLAV XLIST. Courses of Interest to Concentrators in Slavic Languages.

Sociology

SOC 0010. Social Forces: An Introduction to Sociology. Social forces constrain and empower us, bond us together and push us apart. Sociology explores the workings of societies large and small: nations, organizations, communities, families, and other groups. How do societies shape action and identity, and why are social pressures so hard to defy? How do societies distribute wealth and power, and why do inequalities so often coalesce around race, ethnicity, class, and gender? How do established practices persist, and when do movements arise to challenge them? Examining such themes across a range of issues and topics, this course provides a springboard for future study throughout the social sciences.

SOC 0030. Race, Immigration, and the Making of Inequality. In what ways has the interpretation of race and immigration shaped the current system of stratification in American society? This course focuses on answering this question from a historical and contemporary perspective. Using a sociological approach, we analyze the meaning of ethno-racial formation and categorization and survey the different processes that contribute to ethno-racial inequality. Engaging empirical research, we pay special attention to how individuals and groups interpret and experience the institutional arrangements that perpetuate exclusion and disadvantage by race and immigration status. The course aims to provide the analytical tools required to understand race relations in everyday life.

SLAV 0230. Sex, Gender, and Society. An introduction to the sociological study of sex and gender. More specifically, this course explores how sexuality is perceived, defined, and experienced in the context of society. How sexuality influences our lives, is reflected in social norms, attitudes and beliefs, through public and private policies and practices, and the social institutions is also investigated. This class also focuses on how prevalent gender differences really are in our society and examines the social construction of gender.

SOC 0300. Organizations and Society. We live in a society of organizations. We are born inside organizations, we are educated inside organizations, we work inside organizations, and when we die, we will be buried by organizations. Organizations are therefore central to processes that shape individual lives and societal trends, from widening income inequality, to the spread of innovations, to struggles over public policy. This course introduces the field of Organizational Studies, examining organizations as complex, multifaceted social settings. By investigating how organizations and society shape each other, students will build skills for informed, socially-responsible engagement in an increasingly organizational society.

SOC 0300D. Who Am I?. A study of self in contemporary society. We examine the structural and situational forces that shape the self and their impact on personal development, orientations to the world, and interpersonal behavior; we investigate the development of the self as a way of being in the world that makes everyday doings and, ultimately, society, possible. Enrollment limited to 19 first year students. Instructor permission required.

SOC 0300L. From Macro to Micro: Experiencing Education (In)equity in and beyond Schools. In American society a paradox exists: education is both a conduit of mobility and inequality. Schooling offers the potential for greater opportunities; yet the disparate nature of school-communities often compound disadvantages for others. In this course, we explore the complex "ecology" of educational inequality, from macro- to micro-dimensions, exploring economics, housing, intergroup dynamics, race and racism, gender and sexism, poverty and class, and other phenomena. It will provide students with a basis for understanding the relationship between education and society, and we will explore the intersectional ways that group distinctions, material and political realities impact people's lives.

SOC 0300K. Inequalities and Health. We start from the assumption that the social organization of society shapes definitions and experiences of health and illness; the distribution of diseases, and the responses to them. We explore the relevance of social structure and social interaction to health and well-being, emphasizing socioeconomic status, race, ethnicity, gender, and social contexts such as relationships, families, schools, and neighborhoods. This is not a "sociology of medicine" course. It will not emphasize the profession of medicine, health care policy, or health care organizations. Enrollment limited to 19 first year students. Instructor permission required.

SOC 0310. Theory and Practice of Engaged Scholarship. Efforts are underway across college and university campuses—in the United States and globally—to increase opportunities for community-engaged teaching, learning, and research. What is engaged scholarship and how does it challenge (and/or complement) more traditional concepts of scholarship and disciplinary knowledge? What are the historical, practical, methodological, ethical, and other considerations associated with engaging in scholarship? Through investigating these and other questions, students will emerge from this course with a critical understanding of engaged scholarship at Brown University and in the broader landscape of U.S. higher education. Students will be equipped to design a course of study that integrates community practice with academic knowledge throughout the remainder of their time at Brown and beyond. SOC 0310 fulfills a requirement for the Engaged Scholarship Certificate.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
**Course Descriptions**

**SOC 0310. International Migration.**
This course introduces the research and policies related to international migration, a phenomenon involving the dynamic movement of people across borders. The course provides the theoretical and empirical tools required to understand immigration's main theories and empirical debates. The course examines why people migrate and how and why immigrants settle where they do. Additionally, the course examines the structural forces influencing the experiences of immigrant groups in American society and the consequences of international migration for both immigrants and native-born citizens in the United States. Through readings, research, and discussions, students acquire skills needed to objectively analyze how immigration patterns people's lives and simultaneously shapes the boundaries of inclusion and exclusion in society.

**SOC 1010. Classical Sociological Theory.**
How is modern society organized? What holds society together and what drives social change? Why is there such a large gap between the "modern" ideal of formal equality and the reality of factual inequality? Why do differences of class, race and gender persist? What is power and who has it? These questions have motivated generations of sociologists, but many of the arguments continue to be informed by the foundational classical theorists: Karl Marx, Max Weber, Emile Durkheim and W.E.B Du Bois. Looking at the transformations around them -- the rise of capitalism, the modern nation-state, rational bureaucracy, the spread of colonialism, the decline of religion, struggles for emancipation and much more -- they developed arguments that allow us to better understand ourselves, our actions, and the contemporary political, economic and social transformations around us. We explore the defining contributions of these theorists and link them to current debates and theories on systemic racism, gender/sex struggles, global inequalities, social movements and democracy.

**SOC 1020. Methods of Social Research.**
This course aims to impart a critical perspective of, and an empirical familiarity with, the range of methods available to sociological researchers to answer interesting, important, and complex social research questions. It introduces students to the frameworks and methods of conducting sociological research -- from both a qualitative and quantitative perspective. We will examine broadly defined methodological approaches to doing sociology such as survey research, ethnography and interviews, and historical/comparative studies. These methodological approaches correspond to distinct conceptualizations of social life and the science dedicated to studying it. Over the course of the semester, students will focus on developing a fully feasible research proposal.

**SOC 1100. Introductory Statistics for Social Research.**
Introduction to descriptive and inferential statistics: measures of central tendencies and variability, sampling, tests of significance, correlation, and regression. Also includes the use of computers in data analysis. Knowledge of elementary algebra is assumed. Enrollment is limited to 144 students.

**SOC 1116. Criminal Courts and the Law in an Era of Mass Incarceration.**
This course provides a comprehensive introduction to America's criminal court system and all its institutional stakeholders. We will examine America's criminal court system from myriad of different perspectives: courts as organizations, courts as social arrangements of professionals, courts as providers of social services and courts as consumer institutions -- providing the experience of justice to victims, witnesses, defendants and jurors. We will focus on state courts as well as the federal system.

**SOC 1120. Market and Social Surveys.**
This course covers the theory and practice of survey research. Topics include questionnaire design and formatting; sample design and selection; interviewing techniques; data base design and data entry; and elementary data analysis and report production. Students will design, construct, administer, and analyze a survey for a Brown community partner.

**SOC 1155. Borderlands.**
This course explores the creation and maintenance of international borders and the communities that develop in response to them. We will examine a particular collection of borders and borderlands that includes a range of structural, managerial, and geographical variation. Through a combination of scholarly texts, ethnographic accounts, films, and research on GOs and NGOs, we will study legal and illegal crossings, border communities, and border patrol organizations that seek to protect the integrity of national boundaries. (Note: While the case study texts focus on the Mediterranean/Middle East, students will be required to investigate and share research on other areas of the world.) By the end of this course, you will have a comprehensive understanding of how international borders are created, how they are maintained, and how people and organizations navigate them.

**SOC 1260. Market Research in Public and Private Sectors.**
Introduction to data and research methods for private and public sector organizations. Data used in market research include trends in the population of consumers, economic trends, trends within sectors and industries, analyses of product sales and services, and specific studies of products, promotional efforts, and consumer reactions. Emphasizes the use of demographic, GIS, and other available data.

**SOC 1311. Micro-Organizational Theory: Social Behavior in Organizations.**
Micro-Organizational Theory focuses on the human dynamics of organizations as natural systems. It examines how individual attitudes, actions, and interactions make a difference for organizational processes and outcomes. This focus is contrasted with more macro-level approaches, which take the organization (instead of the individual) as the primary unit of analysis. For example, studies of organizations from an economic perspective are typically concerned with the performance of the organization relative to its competitors. Studies of organizations from a macro-sociological focus are typically concerned with an organization's routines and structures, contextualized by the broader environment. SOC 1311 takes a more micro and meso perspective that asks questions such as, "why do individuals in organization behave the way they do, how does this affect the organizations of which they are a part and how, in turn, are individuals affected by their organizations?"
An introduction to the fundamental principles and methods of geographic information systems (GIS). Topics include (a) handling different types of geographic datasets, (b) geo-analytical and modeling tools in GIS, (c) conceptual and theoretical aspects of GIS application development, and (d) errors and uncertainty analysis of GIS applications. Laboratory assignments and the project work provide hands-on experiences in GIS. Enrollment limited to 42 juniors and seniors.
Fall SOC1340 S01 17393 MWF 11:00-11:50(16) (K. Mwenda)

SOC 1430. Social Structure and Personal Development.
The relationship between one's place in the social structure and one's own personal growth. Investigates the social aspects of individual growth and change throughout the life course. Also examines social factors involved in the failure to find a meaningful place for oneself in society.
Fall SOC1430 S01 17394 MWF 12:00-12:50(15) (G. Elliott)

SOC 1490. Power, Knowledge and Justice in Global Social Change.
How is climate change, and how much worse will it get? How are global inequalities' changing? What are their consequences? How is white supremacy implicated here? What is our responsibility in analyzing/engaging these questions? You have at least an implicit response to these questions and others addressing global transformations. This course will help refine your understandings by inviting you to consider the actors, structures, norms and powers shaping how change works and why we judge its expressions as we do. Across multiple areas of global change, we compare conceptions of power and justice in their various articulations.
Fall SOC1490 S01 26400 MWF 2:00-2:50(07) (M. Kennedy)

SOC 1871D. Sophomore Seminar in Sociology of Development.
This seminar provides an introduction to the study of development. It looks at the diversity of understandings of the concept of development as well as its practical importance in the world. Students will read texts that present pressing questions and issues concerning development practices, policies, and theories. Efforts to connect broad theoretical debates to understanding contemporary problems will be encouraged. Enrollment limited to 20 sophomores.
Spr SOC1871D S01 25763 Th 4:00-6:30(17) (J. Itzigsohn)

SOC 1871Z. Martial Arts, Culture, and Society.
In this upper level undergraduate course for which there are no prerequisites, we consider how sociology, and other social sciences, help us understand martial arts and other bodymindful practices (including yoga!) and how they might inform the social sciences. We consider how these practices, their organizations, and their cultures shape, and are shaped by, different structures of power and privilege. We concentrate on martial arts because they straddle such an important axial dimension of society around violence. Enrollment limited to 20.
Spr SOC1871Z S01 25764 M 3:30-5:30(13) (G. Elliott)

SOC 1872E. Global Sociology: Capitalism, Colonialism and the Making of the Modern World.
This course seeks to question our sense of place in the world. Sociology often takes the nation as a bounded unit of analysis. Yet, the history of the modern world is one of empires, colonialism and transnational connections. These global racial and colonial histories are frequently ignored or silenced. This course focuses on Providence and Rhode Island to look at the embeddedness of local lives in global social processes. If we acknowledge that the world has always been global, how does that change our understanding of contemporary issues? How should we rethink sociology to break with its colonial origins?
Fall SOC1872E S01 18649 Th 4:00-6:30(04) (J. Itzigsohn)

Colleges have expanded their focus on diversity to include the social class origins of prospective students. One consequence is the emergence of the notion of first-generation college students: those who are the first in their families to attend college. We examine the challenges facing first-gens as they pursue higher education, focusing on two sources of difficulty: gaining admission and acclimating oneself to college, both academically and socially. Our goals are two-fold: (1) To understand the social barriers, compromises, and internal conflicts that first-generation college students face, and, (2) consider how institutional and structural forces impact and shape these students.
Fall SOC1872G S01 17396 W 3:00-5:30(10) (G. Elliott)

SOC 1872O. Critical Race Theory.
We will examine US race, racism, and racial inequality through the lens of critical race theory. We start with an examination of the development of critical race theory in the legal academy and explore the foundational principles of the theoretical framework. We will utilize a critical race frame to analyze the law as a tool of the US racial state, a mechanism through which the state has created and maintained race privilege and corresponding racial oppression. We will also compare the critical race paradigm that developed in the legal academy to some of the most critical race perspectives in sociology.
Fall SOC1872O S01 17397 Th 1:00-2:20(06) (R. Chou)

SOC 1873D. Inequality of Infant Health.
Infant health has become increasingly unequal since 2010. Medical improvements and greater access to health insurance predict greater equality, but underweight and preterm births have become increasingly likely for unmarried and Black mothers with low levels of education. Why? What contributes to infant health and how could policies improve outcomes for marginalized mothers? This course examines contexts and resources that shape infant health and how infant health shapes life chances for children. Infant health is a central connection between generations and a valuable focus to learn how to increase equality of opportunity in the U.S.
Fall SOC1873D S01 17712 Th 4:00-6:30(04) (E. Rauscher)

SOC 1950. Senior Seminar.
Advanced seminar for sociology and social analysis and research (SAR) concentrators. Participants examine methods for analyzing, writing, and presenting capstone and thesis material and apply peer review techniques in assessing each other's work. Culminates in presentation of capstone or thesis to the department. Required for all sociology and social analysis and research (SAR) concentrators.
Spr SOC1950 S01 25735 MWF 10:00-10:50(03) (C. Spearin)

This course examines the city as not just a place of emancipation, but also a site of segregation, inequality, and resistance. Drawing on historical and sociological perspectives on the city, the course focuses primarily on post-colonial cities and uses a range of methodological approaches to examine historical patterns of city formation and how these have shaped segregation, inequality, and contestation. The course will combine academic writings with primary documents, datasets, policy reports, and literary works, and emphasize collaborative research projects centered on mapping of in-depth case studies.
Spr SOC1954H S01 25938 M 3:30-5:30(13) (P. Heller)

Supervised reading or research. Specific program arranged in terms of the student's individual needs and interests. Required of intensive concentrators. Open to others only by written consent of the Chair of the department. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

Under the direction of a faculty advisor, students construct and carry out research project. The written report of the research is submitted to the advisor for honors consideration. A second reader selected by the thesis advisor certifies that the thesis is of honors quality. Please check Banner for the correct section number and CRN to use when registering for this course.

Under the direction of a faculty advisor, students construct and carry out a research project. The written report of the research is submitted to the advisor for honors consideration. A second reader selected by the thesis advisor certifies that the thesis is of honors quality. Please check Banner for the correct section number and CRN to use when registering for this course.
SOC 2010. Multivariate Statistical Methods I.
Introduction to probability, descriptive statistics and statistical inference. Coverage of the linear model, its assumptions and potential biases. Emphasis on hypothesis testing, model selection and interpretation through application with real data. Fall SOC2010 S01 17400 T 1:00-4:00(06) (J. Candipan)

SOC 2020. Multivariate Statistical Methods II.
This course is a graduate-level introduction to multivariate regression models for categorical and limited dependent variables. Subject matter includes modeling nominal and ordinal outcomes; truncated distributions; and selection processes. The course also reviews strategies for sample design; handling missing data and weighting in multivariate models. The course employs contemporary statistical software. Special emphasis is placed on model selection and interpretation. Prerequisite: SOC 2010 Spr SOC2020 S01 25784 M 1:00-4:00(06) (D. Lindstrom)

SOC 2030. Social Stratification, Inequality and Mobility.
This course provides an introduction to contemporary literature on social stratification, social mobility, inequality in the United States, abroad, based on research articles and books. We focus on theories, data, methods, facts about categorical dimensions of inequality (race, ethnicity, gender, sexual orientation); core dimensions of stratification systems (income, earnings and wealth distributions; poverty; education; the intergenerational transmission of socioeconomic status; social mobility); social institutions that govern social stratification (families, schools, labor markets, and the justice system); key inequalities that stem from stratification systems (e.g., health). This is a reading course, not a research seminar. Fall SOC2030 S01 17404 M 9:00-12:00(09) (M. Jackson)

This is a graduate-level course requires students to engage in detailed analysis and critical review of sociological thought of the 19th and early 20th centuries. The class will introduce students to the critical thinking, methodological innovation, and historical imagination of sociological theory by reading the original texts of the forefathers of sociology, including Karl Marx, Max Weber, Emile Durkheim and others. Fall SOC2040 S01 17401 W 9:00-12:00(09) (N. Chorev)

SOC 2050. Contemporary Sociology.
This class offers a review of some of the most interesting contemporary social theorists and the most intense debates in current sociological thought. It thematically reviews the works of Jurgen Habermas on the public sphere, Michel Foucault on disciplinary and governmental modes of power, Bruno Latour on modernity and modern science, Pierre Bourdieu on field and habitus and among others. No prerequisites. Spr SOC2050 S01 25785 W 9:00-12:00 (P. Heller)

An advanced introduction to theoretical and substantive issues in the social scientific study of population. Major areas within sociology are integrated with the study of population, including the comparative–historical analysis of development, family processes, social stratification, ethnicity, ecological studies, and social policy. Primarily for first year Graduate students. Spr SOC2080 S01 25792 M 1:00-4:00 (S. Short)

SOC 2210. Qualitative Methods.
Emphasis on ethnographic field work through participant observation and interviews. Some attention to content analysis and visual sociology. Technical training in developing observational and interview guidelines, data collection, coding, transcript analysis, and computer applications. Strong emphasis on quality writing. Analysis of ethnographic research in book and article format. Attention to recent developments in ethnography, especially reflexivity and autoethnography. Fall SOC2210 S01 17402 F 1:00-4:00(08) (P. Carter)

SOC 2230. Techniques of Demographic Analysis.
Procedures and techniques for the collection, evaluation, and analysis of demographic data; measures of population composition, fertility, morality, and migration; construction of life tables, population and projections, population dynamics; responsible use of demographic methodology. Fall SOC2230 S01 17403 M 1:00-4:00(08) (Z. Qian)

SOC 2240. Event History Analysis.
An introduction to hazard models and their application to event history data in sociology. Topics include survival distributions, standard parametric models, discrete time approaches, partial likelihood models, and the introduction of covariates. Attention is given to practical application and the estimation of these models with software packages, where possible. Spr SOC2240 S01 25794 Th 9:00-12:00 (D. Lindstrom)

This course is designed to introduce graduate students in sociology and related fields to the study and practice of ethnographic methods. We will discuss various qualitative methodological approaches, but we will concentrate on observational and interview-based research. In addition to considering some of the epistemological issues these methods raise at the theoretical level, students will also have the opportunity to learn by doing. The overall goal of this course is to cultivate and enhance students' skills in ethnographic data analysis and interpretation, and to employ these skills in the writing of a scholarly paper or book chapter. Fall SOC2250 S01 17405 Th 1:00-4:00(06) (L. Lopez Sanders)

SOC 2260D. Race, Ethnicity, and Nation: Boundaries, Identities, Inequalities.
The seminar aims to provide students a solid base in the analysis of racial and ethnic boundaries, identities, and inequalities. The seminar addresses a number of central topics in the field and acquaints the students with some key works. The course is divided in three parts. The first part focuses on how race constituted the modern world and on contemporary forms of racialization. The second part focuses on the construction of nations and challenges to their ethnic and racial boundaries. The third part of the course looks at contemporary boundaries of race and ethnicity in the United States. Open to upper level undergraduates with permission of instructor. Fall SOC2260D S01 17406 F 9:00-12:00(09) (J. Itzigsohn)

SOC 2260L. Cultural Politics and Critical Social Theory.
In this graduate seminar we explore intellectual interventions analyzing how power relations work with an eye toward their transformation even while aware of reaction's proximity. More than an analysis of ideas, this knowledge cultural sociology addresses how cultural politics articulate both rational critical discourse and affect-laden transnational praxis and solidarities. Student interests shape our foci, but sociologists engaging critical race theory, decolonizing knowledge, queer scholarship and reproductive rights will be there alongside sociologists like Patricia Hill Collins, Craig Calhoun, Nancy Fraser, Raewyn Connell, Rhasel Salazar Parreñas, and Zeynep Tufekci, each exemplifying alternative 21st century knowledge activist. Fall SOC2260L S01 17407 T 9:00-12:00(05) (M. Kennedy)

SOC 2260T. Cultural Theory and Methods.
This course introduces graduate students to the sociology of culture (understanding social influence on cultural formations) and cultural sociology (understanding cultural influences on social processes). As we consider different theoretical areas of the field, we will discuss the best methodological approaches in cultural theory. We consider how one formulates a research questions and puts evidence together in order to investigate specific instances of the culture-society interaction. We discuss the distinctions between culture, institutions and organizations. Spr SOC2260T S01 25795 Th 1:00-4:00(08) (N. Gonzalez Van Cleve)

SOC 2330. States, Power, Politics.
How do people collectively negotiate rights within contexts of severe social, economic, and political inequality? What forms do these negotiations take and why? What are the consequences of various forms of political engagement? In this seminar, we answer these questions by debating key theories of collective action and reading a series of recent monographs in political sociology. The class highlights political processes in Asia, Latin America, and Africa and focuses on negotiations between states and civilians. At the end of the class, students will be better understand how social categories, such as class and gender, interact with key institutional features of developing and post-colonial states to shape the dynamics of contention. Fall SOC2330 S01 17592 M 9:00-12:00(09) "To Be Arranged"

For up-to-date course information please visit Courses@Brown.edu (https://cabs.brown.edu).
### SOC 2420. Master's Thesis and Proposal Writing Seminar
Sociology 2420 is a graduate seminar on the craft of social-science writing. Writing is not easy for most of us, and it can sometimes be frustrating. Through out-of-class writing and recurrent in-class review the course explores strategies for making your writing more effective, more productive, and hopefully more enjoyable. The seminar’s goal is to help graduate students to advance and complete their writing tasks, whatever they are working on. It is open to students working on a variety of goals such as writing their MA, their dissertation proposal, a research proposal, or a journal article.

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### SOC 2430. Fields and Methods of Social Research
Introduction to strategies sociologists use to formulate theories and conduct methodologically sound research. Hypothesis formulation and research design; special emphasis on identifying causal mechanisms, techniques of operationalization, and choice of relevant comparisons.

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### SOC 2450. Exchange Scholar Program

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### SOC 2510. Teaching Practicum in Sociology
This course is designed for sociology graduate students whose funding has prohibited a teaching assistantship but who need to complete the departmental teaching requirement. The instructor for this course will default as the department chair but it is the graduate student's responsibility to identify an instructor to work alongside. This partnership must be approved by the director of graduate study.

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### SOC 2520. Sociology Graduate Proseminar
COURSE DESCRIPTION AND OBJECTIVES: The pro-seminar course will provide professional development and practical skills to help new Master’s and PhD students maximize the graduate school experience. The class will provide foundational information and instruction to better organize your professional and personal lives while in graduate school and during your subsequent careers. The course will also help structure a process needed to create a graduate school culture that increases success. COURSE TEXT: Barnes, Sandra. 2007. On the Market: Positioning Yourself for a Successful Academic Job Search. Boulder, CO: Lynn Reiner Publishers. [Students will also be expected to read several other articles and excerpts germane to the course. Additional handouts will be provided.]

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### SOC 2540. Back from the Field: Sociology Methods Writing
An intensive, practice-oriented exploration of qualitative methods such as participant-observation, interviewing, narrative analysis, and ethnography. Exploration of qualitative methods includes logic of inquiry, positionality, ethics, analysis, and writing. Students will learn an array of qualitative methods to conduct case studies using induct and deductive approaches. Students will primarily use an ethnographic approach focusing on the multitude of ways participant observation can be used to test and build theory. Because ethnography is as much art as science, there will be practical exercises to familiarize students with ethics, positionality, reflexivity, and the politics of representation in qualitative work. Students will also demonstrate their abilities to analyze information, to write clearly and persuasively, and to construct original arguments. Students should be able to prepare, conduct, and analyze data from a qualitative research project on their own by the end of this course.

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### SOC 2612. Geographic Information Systems and Spatial Analysis for the Social Sciences
This course is intended for graduate students seeking to learn the basics of Geographic Information Systems (GIS) and how to incorporate spatial questions into social science research. The course is primarily a methods course and through required independent project work, students will learn how GIS and spatial analysis are typically employed across the social sciences. By the end students will be proficient in independent use of ArcGIS, most frequently used GIS software package, and will be able to apply the more common tools of spatial analysis. They will also know basics of cartography.

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### SOC 2960C. Urban Sociology
This course will review alternative theoretical perspectives on urban and regional development with an emphasis on variants of ecological and political economy approaches. Substantive topics will include metropolitan restructuring in the U.S. and abroad, growth politics and growth control, neighborhood social networks and collective action, and incorporation of immigrants and minority groups in the metropolis.

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### SOC 2970. Preliminary Examination Preparation
For graduate students who have met the tuition requirement and are paying the registration fee to continue active enrollment while preparing for a preliminary examination.

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### SOC 2980. Reading and Research
Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

### SOC 2981. Reading and Research
Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

### SOC 2982. Directed Research Practicum - MSAR Students Only
The Directed Research Practicum (SOC 2982) is a one semester course taken in conjunction with an on- or off-campus research internship. The course consists of a directed reading of methodological texts and research articles selected by the student and the faculty director that are of direct relevance to the methodological issues and challenges encountered in the internship. The student and faculty director will meet on a weekly basis to review the readings, assignments, and discuss how the methods on paper “come to life” during the internship experience. Faculty directors need not be involved with the actual internship work (i.e. the internship is off-campus or with an on-campus office), unless the student is working on the faculty member’s research project.

### SOC 2990. Dissertation Preparation
For Sociology PhD graduate students who have met the residency requirement and are continuing research on a full time basis.

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### SOC XLIST. Courses of Interest to Students Concentrating in Sociology

### Theatre Arts and Performance Studies

#### TAPS 0030. Introduction to Acting and Directing
Explores basic acting/directing concepts from a variety of perspectives including the use of the actor's imagination/impulsivity in the creation of truthful, dramatic performance; the body, as a way of knowing and communicating knowledge; and the voice, as a means of discovering and revealing emotion/thought. There is a mandatory tech requirement and some evening hours are required. Please go to the TAPS website for specifics on admission and the technical requirement (http://brown.edu/go/TAPS0030). Enrollment limited to 18 students. Instructor permission required. No permission will be given during pre-registration.

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For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
TAPS 0100. Playwriting I
A workshop for students who have little or no previous experience in writing plays. Students will be introduced to a variety of technical and imaginative considerations through exercises, readings and discussions. Course is not open to those who have taken Advanced Playwriting (TAPS 1500, formerly LTR 1010C and TSDA 1500). Enrollment is limited to 12 undergraduates per section. A limited number of spaces are reserved for incoming and transfer students. Instructor permission required. S/NC.
Fall TAPS0100 S01 16700 F 1:00-3:30(11) (J. Jarcho)
Fall TAPS0100 S02 16701 MW 10:30-11:50(11)  
'To Be Arranged'  
Spr TAPS0100 S01 25924 F 1:00-3:50  
'To Be Arranged'

TAPS 0200. Playwriting II
This course is an artistic laboratory and seminar that builds upon the fundamentals of Playwriting I. In this course we will bolster our writing practice with a toolbox of strategies to generate new writing, develop a revision process using peer feedback and exercises, read and discuss various plays and their mechanisms, and integrate and act upon our creative curiosities to discover the forms that our ideas and stories want to be held in. S/NC.
Fall TAPS0200 S01 16702 T 1:00-3:50(06) (D. Noel)
Spr TAPS0200 S01 25913 T 1:00-3:50  
'To Be Arranged'

TAPS 0220. Persuasive Communication
Introduces public speaking, and helps students develop confidence in public speaking through the presentation of persuasive speeches. Primarily for seniors. Limited to 15. Instructor's permission required. No permission will be given during pre-registration; interested students should sign up well in advance on the TAPS 0220 waitlist (application form is at https://docs.google.com/forms/d/e/1FAIpQLSdWavq_L_fukiByG4FvCvzCLXCF0FDk777MmJFaWjQ/viewform?usp=sf_link) and attend the first day of class. Attendance is mandatory. The application/waitlist process does not apply to students registering for the Summer term through the School of Professional Studies.
Fall TAPS0220 S01 16705 MW 9:00-11:50(18) (B. Tannenbaum)
Fall TAPS0220 S02 16707 MW 1:00-3:50(18) (B. Tannenbaum)
Fall TAPS0220 S03 16708 MW 9:00-11:50(18) (B. Tannenbaum)
Fall TAPS0220 S04 16709 MW 1:00-3:50(18) (B. Tannenbaum)
Fall TAPS0220 S05 16710 MW 9:00-11:50(18) (B. Tannenbaum)
Spr TAPS0220 S01 25902 T 9:00-11:50 (B. Tannenbaum)
Spr TAPS0220 S02 25903 T 9:00-11:50 (B. Tannenbaum)
Spr TAPS0220 S03 25904 T 9:00-11:50 (B. Tannenbaum)
Spr TAPS0220 S04 25905 T 9:00-11:50 (B. Tannenbaum)
Spr TAPS0220 S05 25906 T 9:00-11:50 (B. Tannenbaum)

TAPS 0230. Acting
Focus on elements of dramatic analysis and interpretation as applied to the art of acting, and, by extension, directing. Monologues, scene study, and improvisation are basis for comment on individual problems. Reading of dramatic texts and theory. Substantial scene rehearsal commitment necessary. Attendance mandatory. Not open to first-year students. Enrollment limited to 20. Instructor permission required. No permission will be given during pre-registration. S/NC.
Fall TAPS0230 S01 16704 MW 1:00-3:50(03) (S. dAngelo)
Fall TAPS0230 S02 16716 TTh 1:00-3:50(03) (R. Waterhouse)
Spr TAPS0230 S01 25908 MW 10:00-12:50 (C. Crawford)

TAPS 0250. Introduction to Technical Theatre and Production
This course is an introduction to the concepts and practices of stagecraft. You will be introduced to different elements of stagecraft such as scenery, lighting, and properties. Lecture and lab classes will also cover the proper and safe use of tools, the choosing of building materials, methods of lighting, and properties. Lecture and lab classes will also cover the proper use of tools, the choosing of building materials, methods of lighting, and properties. This is a reading intensive and interdisciplinary course. Students from all backgrounds are welcome. S/NC.
Fall TAPS0250 S01 16658 MW 10:00-11:50(14)  
'To Be Arranged'  
Spr TAPS0250 S01 25911 MW 10:00-11:50  
'To Be Arranged'

TAPS 0260. Stage Lighting
This course is an introduction to stage lighting. Enrollment limited to 6.
Fall TAPS0260 S01 17571 TTh 10:30-12:50(13) (T. Hett)

TAPS 0310. Beginning Modern Dance
Introduction to the art of movement. Focuses on building a common vocabulary based on ballet, vernacular forms, improvisation, Laban movement analysis, American modern dance, and the body therapies. Individual work is explored. One and one-half hours of class, four days a week. Enrollment limited to 40. S/NC.
Fall TAPS0310 S01 16698 MTWTh 1:00-2:20(08) (M. Bach-Coulibaly)

TAPS 0320. Dance Composition
Focuses on building the individual's creative voice. A movement vocabulary is developed from Western techniques (ballet, American modern dance, Laban/Bartenieff movement analysis, vernacular forms, space-harmony/movement physics, and the body therapies) along with group improvisations and collaboration with artists in other disciplines. Enrollment limited to 40. S/NC.
Spr TAPS0320 S01 25888 MWF 10:00-11:50 (M. Bach-Coulibaly)

TAPS 0700. Introduction to Theatre, Dance and Performance
An introduction to the breadth of topics covered in the TAPS Department, this class is a gateway to the concentration open to all students interested in live arts. We will explore how, where, and why theatre, dance and performance are made and investigate their relationship to broader culture and society. Students will learn basics: how to read a play, how to appreciate dance, and how to approach the variety of venues, histories, and methods involved in production. Overlaps with other media will be explored. Visits from TAPS faculty will dovetail with the season of offerings on the TAPS main stage.
Spr TAPS0700 S01 25920 TTh 10:30-11:50(09)  
'To Be Arranged'

TAPS 0800L. (Re)Imagining the Body: What can a Body do?
How does the body perform itself? And what at all is a body? These are the underlying questions to the fundamental question profoundly binding philosophy and performance: ‘What can a body do?’. From philosophical questions about the nature of the body, to issues of gender, race, sexuality, trauma, disability, artificial intelligence, and death, we will see how bodies carry, produce, and perform meanings. With different visual and performance artworks, we will examine how bodies are being represented, discuss what is being expected from bodies, and speculate on the possibility for bodies to be thought of differently. This is a reading intensive and interdisciplinary course. Students from all backgrounds are welcome.
Fall TAPS0800L S01 17555 TTh 10:30-11:50(13) (L. Hilton)

TAPS 0930A. The Actor’s Instrument: Voice and Speech
A complete and well-seasoned actor has the ability to perform with specificity and ease, both vocally and physically. Specificity comes from an integration of speech and movement technique. Ease is only possible when a mastery of technical skills reaches the point where the actor can incorporate them without loss of spontaneity. The goal of this class is to give the student the fundamental techniques of voice and speech in relation to the body. Prerequisite: TAPS 0230. Enrollment limited to 16. Instructor permission required. S/NC.
Prerequisite does not apply to students registering for the Summer term through the Office of Continuing Education.
Spr TAPS0930A S01 25910 MWF 3:30-5:50 (R. Gibel)

TAPS 1000. Intermediate Dance
This is an intermediate-level modern dance class that extends and expands movement coursework for students who have taken TAPS 0310 or equivalent dance study. It is intended to challenge students' memory, capacity for rhythmic complexity, and improvisational competence, as well as foster a professional work ethic that can withstand abundant physical, emotional and organizational challenges.
Spr TAPS1000 S01 25898 MW 5:00-7:30 (J. Deliecave)

TAPS 1100. Stage Management
To introduce students to the principles and techniques of modern stage management from script selection to closing. Through the study of various models of stage management (both professional and academic), students will develop an appreciation of the role of the stage manager as the facilitator, mediator and organizer of the production process. Students will apply theory learned in the classroom by stage-managing or assisting stage-managing a TAPS production and/or observing other TAPS

For up-to-date course information please visit Courses@Brown.edu (https://cas.brown.edu).
TAPS 1200K. Mindfulness and Movement: Interoceptive Expressive Arts
This course cultivates and mobilizes interoceptive awareness as a means of self-expression. By slowing things down, calming the mind and focusing attention on the breath and bodily sensations we practice an open-hearted release from self-judgment. Our daily training in Somatic Studies includes Body-Scanning, Authentic Movement, Yoga, Ideokinesis, Laban Movement Analysis, Continuum, Narrative Medicine, Feldenkrais, Automatic Writing and the Visual Arts. S/NC
Fall TAPS1200K S01 16687 MWF 10:00-11:50(14) (M. Bach-Coulibaly)

TAPS 1280U. Voice Over for the Actor.
Has voice acting always appealed to you but you weren't sure where to start? Luckily, COVID-19 has not impacted the voice over industry and the opportunities in traditional media and digital content are ever-growing. Students will learn acting techniques and how to analyze and voice different types of copy ranging from commercials to video games, animation, audio books and more. The class also covers setting up a cost effective home studio, hardware and software, demo reels, how to find voice work and other aspects of the business. Students need a laptop/desktop computer, a mic, a quiet place to work and a stable internet connection.
Enrollment is limited to 12 to individualize learning and feedback. The focus of the course is skill building and practice in a supportive ensemble environment therefore attendance is required every class.
Fall TAPS1280U S01 16717 TTh 1:00-3:50 (S. d’Angelo)

TAPS 1280W. Native American Indigenous Theatre Performance.
Investigates Native American Indigenous Theatre performance through the study of new contemporary plays. Diverse performance styles informed by Indigenous ways of being and knowing, language, land and identity distinguish Native American Indigenous Theatre performance from Euro-American styles. Inquiry beyond western theatrical understandings is required to center Indigenous narratives and to grasp the rich spectrum offered in the storytelling. Methods of community knowledge production will include guest artists, orality, place / object-making and embodiment to contextualize Indigenous values and their application to decolonize performance spaces, methods of working and theatre-making. All are welcome!
Spr TAPS1280W S01 25909 W 1:00-3:20 (S. d'Angelo)

TAPS 1280Y. Issues in Performance Studies.
Explores myriad ways of thinking, doing and talking about performance in the broad spectrum – from social media to theatre, dance, film, and everyday life including identifications and disidentifications of gender, race, sex, and class. We may study museum installations, surgery, tourism, carnival, history reenactments, performance-based art, sports, and even dinner parties among other actions and sites. The objective is not to pin down a genre or category of performance but to understand performance variously as an analytic and practice, a form of lived history and way of being, including but not limited to traditional theater and dance practices.
Fall TAPS1280Y S01 18336 TTh 1:00-2:20(06) (M. Jimenez Oviedo)

TAPS 1281A. Director/Designer Collaborative Studio.
Students will explore the relationship between director and designer within the production process. The main objective is to improve collaboration and production output by learning the language, tools, and skills involved in each area of discipline so as to enhance creative output. Enrollment limited to 17 students.
Spr TAPS1281A S01 25912 M 1:00-4:50 (K. Moore)

TAPS 1281E. Directing Theory and Practice.
Directing Theory and Practice is a hybrid academic and studio class designed to introduce students to the history, theory, and practice of the director’s craft. Readings on the theoretical/practical methods of direction are examined closely in class discussions and directing projects. All students must serve as actors and directors throughout.
Fall TAPS1281E S01 17558 M 1:00-4:50(08) (K. Moore)

TAPS 1281G. Queer Dance.
In this course we will study the intersections of dance studies and queer studies, in an inquiry into the emerging field of Queer Dance. What does dance do for queer studies? How does queer studies further
## Course Descriptions

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Instructor(s)</th>
<th>Credits</th>
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<th>Days</th>
<th>Location</th>
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<tr>
<td>TAPS 1281G</td>
<td>TAPS 1281G Students</td>
<td>(P. Ybarra)</td>
<td>4</td>
<td>4:00-5:20</td>
<td>TTh</td>
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<td>5:00-6:50</td>
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<td>TAPS 1344</td>
<td>TAPS 1344 Advanced Ballet with Repertory</td>
<td>(P. Seto-Weiss)</td>
<td>4</td>
<td>5:00-6:50</td>
<td>TTh</td>
<td>25918</td>
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<td>TAPS 1346</td>
<td>TAPS 1346 Contemporary Dance Studio Project</td>
<td>(S. Baryshnikov)</td>
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<td>10:00-12:50</td>
<td>TTh</td>
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<td>TAPS 1390</td>
<td>TAPS 1390 Contemporary Mande Performance</td>
<td>(S. Baryshnikov)</td>
<td>4</td>
<td>10:00-12:50</td>
<td>TTh</td>
<td>25897</td>
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### Additional Courses

- **TAPS 1281O. Acting Outside the Box: Race, Class, Gender and Sexuality in Performance**
  - Examines the relationship between social and cultural identities and their representations in dramatic literature and performance. Students will be expected to read critical essays and plays, conduct research, and prepare to act in scenes that challenge the actor to confront the specifics of character and situation beyond the Eurocentric ideal. The goal is to strengthen the actor's ability to construct truly meaningful characters by removing any reliance of "type" and/or immediate "identification" with the characters they will portray. Open to Any Brown/RISD graduate/undergraduate student that has taken TAPS 0230/Acting or the equivalent. Students should be aware that this is a hybrid Research and Performance class which may be counted as either a Performance Studies/Theatre Arts course for credit. Instructor Permission is Required. Interested students should attend the first class meeting in order to apply.

- **TAPS 1285. Film Acting**
  - This intermediate acting class is designed to introduce and develop the tools necessary for acting on camera; to examine the application of the screenplay as a blueprint for the finished film; and to pursue the process and demands of working under limited and quickly changing conditions. Utilizing an extensive library of screenplays, the class will study film scene analysis and preparation, pro-active choice, and heightened connection. They will develop and hone the skill to remain present and vital through multiple takes of the scene, keeping emphasis on process rather than presentation.

- **TAPS 1300. Advanced Set Design**
  - The examination of the working relationship between designer and director. An emphasis on the design abilities needed to communicate varied visual approaches. Developing the creative, theatrical vocabulary needed to turn a director's vision into a fully articulated set design. A substantial amount of plays will be read and researched. Drafting and model rendering techniques will be applied. Prerequisite: TAPS 1280F. Instructor approval required prior to registration. Enrollment limited to 10.

- **TAPS 1330. Dance History: The 20th Century**
  - An exploration of the major figures and trends in modern dance. While the main focus of the course is on American Dance, attention is given to earlier European and other dance traditions that have contributed to the American dance heritage. May be of particular interest Americanists, art historians, dancers, and theatre majors.

- **TAPS 1341. Introduction to Ballet**
  - An introduction to the classical ballet vocabulary and basic movement patterns. We will focus on maintaining correct body alignment while increasing fitness and coordination, and develop a deeper appreciation for ballet in the context of the liberal arts. No prior ballet or dance experience is necessary for this course, but dancers who would like to brush up on basics are also welcome.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
TAPS 1670. Latinx Theatre + Performance.
This course will be an introduction to Latino/a theatre concentrating on the following themes: borders, diaspora and exile, political and personal identities, sexuality, gender and violence, and latino re-imagination of U.S. and Latin history. We will read Chicano/a, Cuban American and Nuyorican drama and performance art. No prerequisites.
Fall TAPS1670 S01 16719 TTh 10:30-11:50(13) (I. Ramos)

TAPS 1970. Independent Reading and Research.
Intensive reading and research on selected topics arranged in terms of special needs and interests of the student. A written proposal must be submitted to the instructor and the chair of the theatre arts department before the project can be approved. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

This half-credit course offers the practical study of theatre through participation as a member of the production team of a Sock and Buskin theatre or dance production. Regular rehearsals, coaching and mentorship by department faculty and staff, participation in technical rehearsals and performances are required. Enrollment is available after auditioning/assignment of roles. Each student will be assigned an advisor/mentor for this process. This half-credit course offering is appropriate for students engaging in production projects that are smaller in scale or shorter in duration than befitting of the one-credit Theatre Practicum course offering. TAPS 1251P. S/NC only.

To be taken by all students accepted into the theatre arts honors program. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

TAPS 2310. Graduate Playwriting.
This course is a combination of workshop and seminar, which MFA Playwriting students take every semester in residence. Students write and revise a new play over the course of the term, sharing work periodically. Weekly reading assignments (plays, theoretical texts, other literary works, works in other media) are designed to expand and unseat your grasp of this art form. Requirements include detailed written and oral feedback, lively participation, presentations, and written exercises. May be taken multiple times for credit. Other graduate students and undergraduates may contact the instructor to request admission to the course, based on a writing sample and relevant experience. S/NC.
Fall TAPS2310 S01 16718 Th 11:00-4:00(06) (J. Jarcho)
Spr TAPS2310 S01 25917 Th 11:00-4:00 (J. Jarcho)

TAPS 2450. Exchange Scholar Program.
Fall TAPS2450 S01 16179 Arranged "To Be Arranged"

This course will cover three modalities. Acting/Scene Study: Realism will provide a fundamental understanding of Stanislavski-based acting within the realistic style, developing: a working understanding of a five-week rehearsal process; a system of text analysis based upon events and cause-and-effect; beginning the work of integrating vocal and physical technique into each individual student’s acting method. Voice and Speech I will provide the basis of the actor’s three years of vocal training, gaining an understanding of the actor’s personal vocal blocks as they relate to how the breath resides in the body. Contact Improvisation will investigate voice, speech and movement to take place unencumbered by habitual effort. Voice, Speech and Alexander work together to enable the actor to produce clear, tension-free sound.
Fall TAPS2515 S01 17562 Arranged "To Be Arranged"

This course is designed to activate the mind of the director. It is a detailed investigation of the creative process and the beginning of the foundation for communication with actors, designers and audiences in the making of live performance with text. MFA students will participate in Directing Lab, rehearsing as assigned.
Fall TAPS2535 S01 17563 Arranged "To Be Arranged"

TAPS 2545. Dramaturgy.
This course will be an introduction to dramaturgy advanced undergraduates and MFA students. The course will introduce a wide variety of play and critical approaches to dramatic texts and performances with emphasis on culturally divergent dramaturgies, embodied dramaturgy, adaptation and textual analysis for performance. This course meets for 2 of the 3 hours with TAPS 1600 Dramaturgy for MFA students; Graduate Students will take Deb Salem-Smith’s Playwriting course for the final hour of their course credit.
Fall TAPS2545 S01 17564 W 3:00-5:00(10) (C. Columbus)

TAPS 2555. Advanced Acting: Modern and Contemporary Realism.
Purpose: To provide a deepened understanding of the principles of Stanislavski-based acting within the realistic style; to reinforce and practice a working understanding of a five-week rehearsal process; to develop a system of text analysis based upon events and cause-and-effect; to understand and deepen the process of individual personalization; to continue the work of integrating vocal and physical technique into each individual student’s acting method.
Spr TAPS2555 S01 25877 Arranged "To Be Arranged"

TAPS 2565. Acting Technique II: Strength, Expansion and Articulation.
This course is open only to students of the Brown University/Trinity Rep MFA Consortium program. Continued studio exploration of various dance and movement techniques and vocal articulation and practice, designed to promote effective, healthy usage of the actor’s instrument, as well as an introduction to dialect work and stage combat. This course includes separate classes in Speech, Alexander Technique and Movement Technique. Mandatory S/NC.
Spr TAPS2565 S01 25878 Arranged "To Be Arranged"

This course will be an introduction to the offerings in theatre history, theory and practice offered at Brown University and environs in relation to a changing American Theatre. Each week will feature an original guest speaker from TAPS or other affiliate departments/institutions to expand your understanding. First Look Production is included in this course. This production process is a companion production experience to course work done in the fall semester. Students will experience the full process of revising and staging original works, with opportunities to work as actor and/or director, playwright, producer—actively applying conceptual knowledge gained from first semester courses.
Spr TAPS2575 S01 25879 W 2:00-4:30(07) (P. Ybarra)

TAPS 2585. Directing II: Collaborative Communication.
Building on Directing I: Fundamentals in Analysis and Action this course focuses on communication between actors and directors. Methodologies are tested and explored through practice in studio scene work. Rehearsal preparation, diagnostic processes are developed and practiced, and a detailed exploration of the directors preparation is the final project.
Spr TAPS2585 S01 25880 Arranged "To Be Arranged"

An introduction to the conventions of classical English verse performance, including elements of meter, heightened language, metaphor and rhetoric, with the goal of expanding the actor’s understanding of the principles of realistic acting to the rigorous demands of Shakespearean and other classical texts. This course includes separate classes in Scene Study, Voice and Movement, all designed to support and promote heightened poetic expressivity in performance. S/NC.
Fall TAPS2605 S01 17565 Arranged "To Be Arranged"

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
TAPS 2615. Acting Technique III: Poetic Expression.
Vocal and physical work designed to support the exploration of classical verse acting, with an emphasis on expanding a range of performance beyond realism. Rhythm, fluidity, presence, power, clarity of thought and the expression of emotional depth through language and movement is the focus of studio practice. Also included is introduction to singing technique. This course includes separate classes in Movement Technique, Alexander Technique and Singing.
Fall TAPS2615 S01 17566 Arranged 'To Be Arranged'

TAPS 2625. Playwriting Dramaturgy Practicum.
This course is advanced playwriting and script analysis for second year students. We will look deeper at the tools and craft of playwriting. We will begin by exploring adaptation—what are the bones and tissues of a given story? How can that body be transformed into a theatrical story? What is required? What changes? What is the relationship between form and content? We will transition from adaptation to writing original full-length works.
Fall TAPS2625 S01 17567 Arranged 'To Be Arranged'

TAPS 2635. Directing III: The Director's Vision.
This course is for Brown/Trinity MFA Actors and Directors and focuses on the vision of the director. Deep investigation in complicated language, verse, period. Continued development in collaboration with actors as well as personal mission, and vision. Seminar discussion of current work in process and production, exploration of contemporary dramatic forms and practitioners, issues in the art and craft of directing, diagnostic and exchange around the breaking of boundaries and best practices. Seminar runs concurrently with Directors Lab, Director projects, including thesis, and verse. Directors Lab provides work for critical analysis that is the bedrock of the conversation in Fall Seminar, through diagnostic tools.
Fall TAPS2635 S01 17568 Arranged 'To Be Arranged'

In-depth study of the methods and practice of classical acting, with the goal of developing professional-level skill and mastery of the form. Actors work toward total integration of the physical and vocal instrument into a unified whole to achieve complete expressivity of thought, emotion, character and imagination through poetic language and vigorous, purposeful and creative physicality. This course includes separate classes in Scene Study, Voice and Movement Composition.
Spr TAPS2655 S01 25881 Arranged 'To Be Arranged'

TAPS 2665. Acting Technique IV: Creativity and Virtuosity.
A culmination of the technical practice of the previous three semesters, with the goal of achieving a professional level of technical expertise. Through mastery of the vocal and physical instrument, the actor is prepared to fulfill creative, imaginative and athletic choices in physical and vocal performance. This course includes separate classes in Alexander Technique, Singing and Movement/Devising.
Spr TAPS2665 S01 25882 Arranged 'To Be Arranged'

TAPS 2675. Advanced Playwriting
We will do craft exercises and close readings of texts to look deeper at how works are built. We will explore, discover, and map the mechanics of a diverse range of texts. You will have the opportunity to experiment with those same mechanics to create your own pieces. Through energetic workshop-style classes, you will experience the full process of drafting, hearing aloud, and then revising original works. In charting and defining others’ voices, you will discover your own particular voice and what makes it valuable and necessary.
Spr TAPS2675 S01 25883 F 10:00-12:30 (D. Smith)

TAPS 2685. Directing IV: Special Topics
This course is focused on the development of advanced and augmented research and the deepening of communication with designers and production team. Directors will explore a variety of methodologies and approaches to theatre-making.
Spr TAPS2685 S01 25884 Arranged 'To Be Arranged'

TAPS 2695. Spring Directing Practicum.
Spring Directing Practicum is the spring repertory production in the end of the fourth semester directed by each MFA Directing Student. This production is fully designed with a professional design team and presented to the public at the Pell Chafee Performance Center in cooperation with Trinity Rep.
Spr TAPS2695 S01 25885 Arranged 'To Be Arranged'

TAPS 2705. Third Year Practicum: The Actor as Creator.
Based upon a foundation of mastery in realistic and classical acting styles, actors engage in an exploration of historical, modern and contemporary dramatic literature and theatre practice with a goal of developing a personal aesthetic voice that pushes the boundaries of convention and tradition in their mature theatre practice. This course includes separate classes in Scene Study, Voice, Movement and Alexander Technique, as well as participation in Director’s Lab. S/NC Fall TAPS2705 S01 17569 Arranged 'To Be Arranged'

Seminar discussion of current work in process and production, exploration of contemporary dramatic forms and practitioners, issues in the art and craft of directing, diagnostic and exchange around the breaking of boundaries and best practices. Seminar runs concurrently with Directors Lab, Director projects, including thesis, and verse. Directors Lab provides work for critical analysis that is the bedrock of the conversation in Fall Seminar, through diagnostic tools.
Fall TAPS2735 S01 17570 Arranged 'To Be Arranged'

TAPS 2755. Third Year Practicum: The Actor as Total Theatre Artist.
Actor's produce, direct, write and perform an original solo piece as a culmination of their ongoing study of acting, directing and playwriting, with the goal of developing confident expression of their singular voice, point of view and artistic aesthetic as they enter the professional world. Writing, devising, presentation and critique of ongoing work all take place throughout the semester, culminating in a final public performance that serves as an acting thesis and manifesto of the actor's identity as an individual artist. This course includes private work with members of the Acting, Directing, Voice, Movement, and Playwriting faculty.
Spr TAPS2755 S01 25886 Arranged 'To Be Arranged'

TAPS 2775. Directing Seminar.
Seminar discussion of current work in process and production, exploration of contemporary dramatic forms and practitioners, issues in the art and craft of directing, diagnostic and exchange around the breaking of boundaries and best practices. Seminar runs concurrently with Directors Lab, Director projects, including thesis, and verse. Directors Lab provides work for critical analysis. This course is required for all Brown/Trinity Rep MFA Directors. The course is S/NC.
Spr TAPS2775 S01 25887 Arranged 'To Be Arranged'

TAPS 2790. Comprehensive Examination Preparation.
For graduate students who have met the tuition requirement and are paying the registration fee to continue active enrollment while preparing for a preliminary examination.
Fall TAPS2790 S01 16180 Arranged 'To Be Arranged'
Spr TAPS2790 S01 24919 Arranged 'To Be Arranged'

TAPS 2795. Thesis Workshop.
For graduate playwrights, in their second and third years, rehearsing and revising their thesis projects. May be taken multiple times for credit. Must be taken both semesters in the third year.

TAPS 2890. Graduate Level Independent Reading and Research.
A program of intensive reading and research on selected topics arranged in terms of special needs and interests of the student. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

TAPS 2891. Master’s Thesis Research.
Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

TAPS 2990. Thesis Preparation.
For graduate students who have met the residency requirement and are continuing research on a full time basis.
Fall TAPS2990 S01 16181 Arranged 'To Be Arranged'
Spr TAPS2990 S01 24920 Arranged 'To Be Arranged'

For up-to-date course information please visit Courses@brown.edu (https://cab.brown.edu).
University Courses

UNIV 0123. Practical Introduction to Peer Advising.
A defining part of Brown’s Open Curriculum is the central role that students play in supporting the learning of their peers. In this class, you – in community with your classmates as potential future peer advisors – will learn best practices in inclusive advising pedagogy while exploring specific academic, co-curricular, professional, and social challenges, opportunities, and resources at Brown. Coursework includes self-reflection, peer-to-peer sharing, hands-on exercises, and theoretical readings that culminate in a group project exploring an advising area of interest and importance to you. Those who successfully complete the course will receive preference for funded peer advising positions within the College, including the Meiklejohn Peer Advising program. ( Mandatory S/NC, Half-Credit Course restricted to semester levels 01 to 06.)
Spr UNIV0123 S01 26292 M 3:00-4:20 (R. Zia)

UNIV 0400. Beyond Narnia: The Literature of C. S. Lewis.
C. S. Lewis was one of the most widely read authors of the 20th Century, yet much of his philosophical, theological and political theories are unfamiliar. His fiction and philosophical writings will be explored to better understand his perspective on modern humanity, the relationship of man to family, the community and the state. C. S. Lewis had a very clear understanding of the importance of the individual and how he relates to the larger social structures. Morality and the role of individuals as they interface with others around them and their responsibility for working with society both at community level and at the macro-state level will be explored.
Spr UNIV0400 S01 25519 T 4:00-6:30(16) (T. Flanigan)
Spr UNIV0400 S02 25523 W 3:00-5:30(10) (T. Flanigan)
Spr UNIV0400 S03 25524 F 3:00-5:30(15) (T. Flanigan)

UNIV 1110. The Theory and Teaching of Problem Solving.
What is a problem and how do you solve one? What relationship exists between problem-solving and teaching? This course is designed for STEM focused students (but it is open to all) who are teaching/will teach and are interested in improving their problem-solving and teaching. You will gain the skills that will aid you in your own learning, promote learning in others, improve communication and problem-solving capabilities, and prepare you to engage more deeply in diverse learning spaces. In the final weeks of the course you will apply concepts to a Scholarship of Teaching and Learning project that focuses on improving/examining problem-solving and/or teaching in your field. S/NC
Fall UNIV1110 S01 16699 TTh 1:00-2:20(06) (C. Smith)

This course is a required 2-credit course for students participating in the Brown in Washington, D.C. program. The course is centered around a challenging 30-hour/week internship in a public-sector or not-for-profit organization in Washington, D.C., which provides an immersive experiential learning opportunity at an organization or agency involved in the public policy process. Seminar sessions, workshops, field trips, and reading and writing assignments enable students to reflect on their internship experiences, contextualize their work and organization within the broader DC policy environment, and develop academic and professional skills
Fall UNIV1801 S01 18115 M 2:00-5:00(01) (S. Montgomery)

Urban Studies

URBN 0210. The City: An Introduction to Urban Studies.
With over half the world’s population now living in cities, understanding the past and present of urbanization is critical to the planet’s collective future. This course introduces students to cities and urban life around the globe. Drawing upon multiple disciplines, it explores questions like: How do histories of urban planning shape present patterns of inequality? How does rampant growth impact ecology and health? How do new identities and solidarities arise in cities, and what effects does citizenship activism have on urban politics? What urgent challenges face cities today, and how might these be creatively overcome by communities, planners, and governments?
Fall URBN0210 S01 17527 TTh 1:00-2:20(06) (L. Yapp)

An introduction to Urban Studies and to the city of Providence, this first year seminar explores from an interdisciplinary perspective how cities are broadly conceptualized and studied. Students then focus on urban dwelling, using Providence as a first-hand case study. We comprehensively examine urban life and change, attending to urban history, the diverse configurations of people and place, social and environmental issues, and urban sustainability. In a lively and varied approach to local learning, course activities include lectures, discussion, reading and writing assignments, films and other media, guest speakers, and excursions to local sites. Enrollment limited to 19 first year students.
Fall URBN0230 S01 16392 TTh 10:30-11:50(13) (R. Carter)

A central theme of the course is that urban politics in the United arises from the interplay of governmental power and private resources. The course describes the emergence of urban America; the modern city and the theories that have evolved to explain urban politics; and the nature of the urban condition with particular emphasis on the challenges faced by residents and government in the post-industrial city.
Fall URBN1270 S01 16435 TTh 2:30-3:50(12) (M. Orr)

URBN 1870D. Downtown Development.
This seminar examines the development and revitalization of the urban core in the United States with a focus on urban planning. Providence is used as a laboratory to explore development from the perspective of the planner, the developer, and city residents. Important concepts are illustrated through field trips, public meetings, and guest speakers.
Fall URBN1870D S01 16395 Th 4:00-6:30(04) (R. Azar)

URBN 1871A. Heritage in the Metropolis: Remembering and Preserving the Urban Past.
Urban heritage – from archaeological sites and historic architecture to longstanding cultural practices – is increasingly threatened by the exponential growth of cities around the globe. Most critically, the complex histories and lived experiences of the diverse communities who have inhabited and shaped cities are often in danger of being erased and forgotten today. This course examines how we might remember and preserve this urban past – and the tangible sites and artifacts that attest to it – in light of the social and political dynamics of cities in the present.
Fall URBN1871A S01 16393 W 3:00-5:30(10) (L. Yapp)

URBN 1970. Independent Reading and Research.
A specific program of intensive reading and research arranged in terms of the special needs and interests of the student. Open primarily to concentrators, but others may be admitted by written permission. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

A program of intensive reading, research, and writing under the direction of a faculty member. Permission should be obtained from the Thesis Advisor in Urban Studies. Mandatory attendance at periodic meetings during the semester is required. Open to Senior Urban Studies concentrators pursuing Honors in Urban Studies. Instructor permission required.

A program of intensive reading, research, and writing under the direction of a faculty member. Permission should be obtained from the Thesis Advisor in Urban Studies. Mandatory attendance at periodic meetings during the semester is required. Open to Senior Urban Studies concentrators pursuing Honors in Urban Studies. Instructor permission required.

URBN XLIST. Courses of Interest to Concentrators in Urban Studies.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Course Descriptions

Anthropology
ANTH 1236 Urban Life: Anthropology In and Of the City
Cognitive, Linguistics, Psychological Sciences
CLPS 0900 Statistical Methods
East Asian Studies
EAST 0533 Beyond Gangnam Style: Seoul, Dislocation, and the Search for Place
Economics
ECON 1820 Introduction to Econometrics
Education
EDUC 1620 Urban Schools in Historical Perspective
Environmental Studies
ENVS 0070C Transcending Transportation Impacts
ENVS 1400 Sustainable Design in the Built Environment
ENVS 1926 Wasted: Rethinking Chemical Environments
History of Art and Architecture
HIAA 0100 Introduction to Architectural Design Studio
HIAA 1307 Politics and Spectacle in the Arts of Ancient Rome
History
HIST 1961D Heaven Above, Suzhou and Hangzhou Below: Urban Culture in Early Modern China
Slavic Studies
RUSS 1440 Imagining Moscow: Utopia and Urban Spaces in 20th-Century Russian Culture
Sociology
SOC 0310 Theory and Practice of Engaged Scholarship
SOC 1100 Introductory Statistics for Social Research
SOC 1340 Principles and Methods of Geographic Information Systems

Visual Art
VISA 0100. Studio Foundation. Required for all VA and RISD courses (with the exception of VISA0120, VISA0130, VISA0140, VISA0150 and VISA0160). Covers the basics of drawing and 2D design while cultivating the capacity for visual thinking. Fall VISA0100 S01 18410 TTh 4:00-5:50 (Z. Coc-Chang)

VISA 0130. Sculpture Foundation. This is an extensive study in form and structure. It is designed to develop spatial understanding and the fundamentals of 3-dimensional design and construction. Students will explore the structural, compositional and conceptual implications of common materials, such as wood, metal, plaster and found objects. Projects are designed as a means for investigating a variety of sculptural processes. Students will learn safe usage of power and hand tools, casting techniques, wood and metal work. In addition, special emphasis will be placed on creativity, critical thinking and the ability to successfully articulate ideas visually. Fall VISA0130 S01 18435 W 1:00-4:50 (H. Metaferia)

VISA 0140. Photography Foundation. This class is a wide ranging technical and conceptual introduction to photography. Through weekly projects, students will be exposed to 19th-21st century photo processes. Topics covered include cameras, lenses, software, darkroom overview, scanning, natural and artificial lighting, alternative processes as well as concepts such as selective focus, color temperature, composition. Short readings and in-class slide presentations on a diverse range of photographers will introduce students to the history of photography. This course will prepare students for upper level Photography classes at Brown and RISD. Fall VISA0140 S01 18436 Th 4:00-7:50 (M. Krinsky)

VISA 0150. Digital 2D Foundation. This foundation studio course introduces the basic practices and concepts of two-dimensional digital media production including image acquisition, editing and manipulation, vector illustration, and preparation for online and offline viewing. Through studio exercises, readings, and assignments we will experiment with the production of electronic images. We will be looking at and producing work that is conscious and critical in nature, and which combines aspects of contemporary art, media, and technology. Collaboration and group work will be encouraged to share learning techniques and skill resources. Fall VISA0150 S01 18476 TTh 9:00-11:00 (To Be Arranged)

VISA 0160. Foundation Painting. Painting in acrylics for a variety of interests and aptitudes - basic instruction in media and painting procedure, emphasis on development of the image as a visual statement. Will cover basic color principles, painting techniques and concepts. Assignments cover a wide range of approaches including painting from observation, individual research, and inspiration. Images, related books, and articles are discussed. Individual criticism is given; participation in group discussions is required. Fall VISA0160 S01 18409 F 10:00-1:50 (W. Sanders)

VISA 1110. Drawing. This course focuses on drawing from models, observation, and imagination in a variety of media with an emphasis on creative work and classroom participation. A continuing series of outside assignments is emphasized. Visits to galleries, museums and pertinent exhibitions may be undertaken. The later part of this course will introduce ideas of conceptual and political art into the drawing process.

VISA 1210G. Silkscreen. This course will provide students with a thorough knowledge of both water-based screen printing techniques and digital imaging. The intersection of digital printing processes and screen printing within the context of contemporary works on paper will be explored through a series of experimental mixed-media projects. Work will be in both black and white and color.

VISA 1210J. Making Monotypes: Ideas Through Printed Variation. The aim of the course is to understand the variability, sequencing potential and the inherent luminosity of the monotype medium and to use these attributes to discover and advance one’s own visual ideas. Monotype refers to the making of a single unique print through press and non-press means. Several rapid projects with themes will precede a longer series culminating in a final epic portfolio of independent content. Individual, peer, and small and large group critiques will occur weekly for feedback.

VISA 1240. Art of the Book. Will examine the book, structurally and conceptually, as artist’s medium. Students will learn the materials, tools and techniques of making books, as they explore the expressive and narrative possibilities of the book form. Topics and projects may include digital imaging, combining text and image, traditional binding or digital publishing.

VISA 1310. Painting I. This painting course explores ideas and concepts in contemporary painting and emphasizes individual projects based on prompts. Students will experiment with materials, color and scale strengthening ideas through individual investigations into content and context. Critiques, readings, writing assignments and final projects will be supplemented by research into artists and movements that have developed within the last several decades.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
In this course, we will divide our time equally between studying the works/ styles of contemporary performance artists and practicing performance art techniques and various modes of physically engaging in this art form. (Note: Performance art is not to be confused with the term performing arts. This class is not a theater or poetry presentation course, but can be applied to the ways in which both are presented.) This course will focus on the genre of performance art which lies between most other art disciplines and includes raw feelings (not acted emotions), political views and above all else, the embodiment of physical actions as art.

Fall  VISA 1400  S01  18402  T  1:00-4:50  (H. Metaferia)

VISA 1420. Sculpture II: Conceptual Propositions.
This studio course explores a number of contemporary sculptural theories and practices. Contemporary issues raised in critiques and readings. Completion of VISA 1410 is suggested, but not required. Demos and workshops on a number of tools and materials will be given as needed. Students may take this course more than once, as the problems can be customized for those with more experience. Extensive outside work expected.

Fall  VISA 1420  S01  18399  TTh  1:00-4:50  (D. Stupar)

VISA 1510. Black and White Photography.
This course offers introduction to traditional black and white 35mm darkroom techniques, including processing film, silver gelatin printing and related techniques. While the class is primarily a studio course, it will be supplemented by weekly slide presentations and discussions of assigned readings. Slide presentations will focus on individual photographers in the history of the medium. Topics of discussion will include photographic genres, the photo essay, editing and sequencing a body of work, personal visions, social and political context, documentary versus art photography.

Fall  VISA 1510  S01  18400  MW  9:00-11:50  (T. Ganz)

VISA 1520. Digital Photography.
Over 1.8 billion photographs are uploaded to the Internet each day. Since everyone's a 'photographer', what type are you? While we constantly produce images for ourselves and others in private and public, this course will ask students to critically rethink this tool. Image-making, from "capture" to "color-correction" and beyond will be consciously addressed, as we approach photography from the perspective of contemporary art practice and produce a final portfolio of prints. Class will be discussion, slideshows, studio and critique. Prior experience in photography preferred not required.

Fall  VISA 1520  S01  18401  MW  1:00-3:50  (R. Ross)

VISA 1740. Time Deformation.
In this course, we will divide our time equally between studying the works/ styles of contemporary performance artists and practicing performance art techniques and various modes of physically engaging in this art form. (Note: Performance art is not to be confused with the term performing arts. This class is not a theater or poetry presentation course, but can be applied to the ways in which both are presented.) This course will focus on the genre of performance art which lies between most other art disciplines and includes raw feelings (not acted emotions), political views and above all else, the embodiment of physical actions as art.

Fall  VISA 1740  S01  18417  W  1:00-3:50  (E. Osborn)

VISA 1800C. Honors Seminar.
Required for students who have been accepted as candidates for honors. The seminar meets weekly to discuss readings and for group critiques. Includes group trips to New York and Boston, to visit galleries, museums, and artists' studios. Instructor permission required. Must be accepted into Honors Program.

Fall  VISA 1800C  S01  18405  MW  9:00-11:50  (R. Ross)

Unlike other creative professionals, visual artists don't have agents or managers—you handle the business yourself, with the support of your community. This class covers business basics including tracking inventory and preparing invoices; taking legal precautions such as registering a copyright and drafting consignment forms; using promotional tools; diversifying income; and making career decisions such as choosing the right venues to show your work. We will discuss grants, residencies, budgets, do-it-yourself strategies, financial health, and professional relationships. Discussion and assignments will emphasize community, the sharing of resources, and the practical, hands-on skills necessary to thrive as a visual artist.

Fall  VISA 1800P  S01  18404  W  3:00-6:50  (H. Bhandari)

Work on an approved project leading to the presentation of a portfolio, under supervision of an individual member of the staff. Project proposals must be filed with the department no later than the first week of the semester. Section numbers vary by instructor.

VISA 1920. Russian Cinema (RUSS 1250).
Interested students must register for RUSS1250.

Fall  VISA 1920  S01  18606  Arranged  "To Be Arranged"

Section numbers vary by instructor.

VISA 2450. Exchange Scholar Program.

VISA XLIST. Courses of Interest to Visual Arts Concentrators.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Africana Studies

The concentration in Africana Studies critically examines the artistic, historical, literary, and theoretical expressions of the peoples and cultures of Africa and the African Diaspora. Central to the work of students and faculty in the concentration is the close collaboration of artists, scholars, and writers in examining relationships between academic and artistic knowledge about the world and human experience. Concentrators work closely with faculty members in developing new knowledge about the world and human existence through the critical and comprehensive study of the peoples and cultures of Africa and the African Diaspora. Concentrators are encouraged to study abroad in Africa, the Caribbean, and/or Latin America and to acquire language competency in a language other than English spoken in Africa and the diaspora.

Africana Studies presents a different conceptual paradigm that connects the global black experience. Africana Studies engages issues about historical and contemporary responses to local and global crises. It engages with how people of color create their own knowledge culturally and politically. It often times a critique of how forms of knowledge are produced. Concentrators acquire a host of interdisciplinary skills that allow them to ask questions about the world around them, and forms of knowledge production while developing critical analytical skills. Our concentrators deploy these skills in other classes, enriching their own general intellectual development.

In order to develop requisite competency in the discipline of Africana Studies, concentrators must complete nine (9) semester-long courses offered by or cross-listed with the Department. Seven (7) courses must have an AFRI prefix or be offered by Africana Studies core faculty. Two (2) courses can be cross-listed. In some cases, Concentrators may petition the Department to accept other appropriate courses. Of these 9 courses, the following Africana Studies courses are required:

- AFRI 0090 An Introduction to Africana Studies
- AFRI 1330 Africana Studies Junior Seminar
- AFRI 1360 Africana Studies: Knowledge, Texts and Methodology—Senior Capstone Seminar (Spring ONLY)

Students studying abroad during the second semester of their junior year will be required to take the seminar during their senior year. If there is a documented conflict with another concentration's senior seminar, students should consult with the DUS.

The Department strongly encourages foreign study in Africa, the Caribbean, and Latin America.

The Department also encourages the acquisition of language competencies, in addition to English, which are spoken in Africa and the diaspora. Since no continental African language is permanently offered at Brown (to date), concentrators who study abroad and acquire certified competency in any African language are welcome to petition the department for competency credit.

For more information about the concentration, please contact the Director of Undergraduate Studies.

Honors in Africana Studies

Africana Studies’ concentrators with outstanding academic records (demonstration of excellent research and writing skills from course selections to grades) may be admitted to the department’s Honors Program.

Students interested in pursuing honors should identify a faculty sponsor in Africana Studies (chosen from Core Faculty or affiliated faculty after Chair agreement) in their 6th semester and begin working on their thesis project during the summer before their senior year. By the end of the sixth semester, while working in consultation with a faculty advisor, the student must submit a rough draft of the project proposal.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Requirements for Students Who Declare Spring 2021 and After:

The concentration requires 10 classes. Each concentrator must take at least 8 upper-level courses including a Junior Seminar (an AMST 1700 level course) and a Senior Seminar (AMST 1900 level course). Students may take as many AMST 1900 level courses as they wish, however, for the course to count as a senior seminar it must be taken during the senior year.

Students may count up to two lower-level classes (below 1000-level). Each concentrator will create an individual FOCUS consisting of at least three courses in consultation with the Concentration Advisor. The focus is the flexible core of the concentration. Here each student builds a coherent and dynamic interdisciplinary cluster of related courses that develops his or her compelling interest in some aspect of American experience. Up to three courses from outside of AMST and ETHN can be counted for credit within the concentration if they relate to the concentrator's focus area.

Of the 10 required classes, four must be seminars, and two must be classes offered under the AMST or ETHN prefixes that have been tagged with a specific method. Each class must be tagged with a different method. These seminars and tagged classes can count for any other concentration requirement.

All seniors are required to do a capstone electronic portfolio.

Requirements for the American Studies Concentration

Junior Seminar: A course from the AMST 1700 Series, for example:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMST 1700B</td>
<td>Death and Dying in America</td>
</tr>
<tr>
<td>AMST 1700C</td>
<td>Slavery in American History, Culture and Memory</td>
</tr>
<tr>
<td>AMST 1700D</td>
<td>Race and Remembering</td>
</tr>
<tr>
<td>AMST 1700F</td>
<td>American Publics</td>
</tr>
<tr>
<td>AMST 1700I</td>
<td>Community Engagement with Health and the Environment</td>
</tr>
</tbody>
</table>

Senior Seminar: A course from the AMST 1900 series taken during the senior year, for example:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMST 1900A</td>
<td>The Problem of Class in America</td>
</tr>
<tr>
<td>AMST 1900B</td>
<td>America and the Asian Pacific: A Cultural History</td>
</tr>
<tr>
<td>AMST 1900C</td>
<td>Narratives of Slavery</td>
</tr>
<tr>
<td>AMST 1900D</td>
<td>America as a Trans-Pacific Culture</td>
</tr>
<tr>
<td>AMST 1900F</td>
<td>Transnational Popular Culture</td>
</tr>
<tr>
<td>AMST 1900G</td>
<td>Movements, Morals, and Markets</td>
</tr>
<tr>
<td>AMST 1900I</td>
<td>Latina/o Cultural Theory</td>
</tr>
<tr>
<td>AMST 1900J</td>
<td>Race, Immigration and Citizenship</td>
</tr>
<tr>
<td>AMST 1900K</td>
<td>China in the American Imagination</td>
</tr>
<tr>
<td>AMST 1900L</td>
<td>Cold War Culture The American Culture in the Cold War</td>
</tr>
<tr>
<td>AMST 1900N</td>
<td>Ethnicity, Identity and Culture in 20th Century New York City</td>
</tr>
<tr>
<td>AMST 1900O</td>
<td>Filipino American Cultures</td>
</tr>
<tr>
<td>AMST 1900P</td>
<td>Essaying Culture</td>
</tr>
<tr>
<td>AMST 1900Q</td>
<td>From Perry to Pokemon: Japan in the United States, the United States in Japan</td>
</tr>
<tr>
<td>AMST 1900R</td>
<td>Gender, Race, and Class in the United States</td>
</tr>
<tr>
<td>AMST 1900S</td>
<td>Green Cities: Parks and Designed Landscapes in Urban America</td>
</tr>
</tbody>
</table>

Some concentrators may elect to do an Honors Thesis and are encouraged to take AMST 1800, the Honors Seminar, in the Spring of their Junior year. Students pursuing honors are required to take two independent study courses (AMST 1970) in their senior year, in addition to two upper-level lectures or seminars numbered between AMST 1900 and AMST 1901, including those AMST 1900s listed above. Some examples of past seminars include:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMST 1250G</td>
<td>Topics in Material Culture Studies: The Arts and Crafts Movement in America 1880-1920</td>
</tr>
<tr>
<td>AMST 1596</td>
<td>Education Beyond the Classroom Walls: Teaching and Learning in Cultural Institutions</td>
</tr>
<tr>
<td>AMST 1600D</td>
<td>Sports in American Society</td>
</tr>
<tr>
<td>AMST 1601</td>
<td>Health and Healing in American History</td>
</tr>
<tr>
<td>AMST 1611M</td>
<td>Trauma and the Shame of the Unspeaking: The Holocaust, American Slavery, and Childhood Sexual Abuse</td>
</tr>
<tr>
<td>AMST 1901D</td>
<td>Motherhood in Black and White</td>
</tr>
<tr>
<td>AMST 1902Z</td>
<td>Radio: From Hams to Podcasts</td>
</tr>
<tr>
<td>AMST 1904V</td>
<td>Decolonizing Minds: A People's History of the World</td>
</tr>
<tr>
<td>AMST 1905N</td>
<td>War and the Mind in Modern America</td>
</tr>
<tr>
<td>AMST 1905Q</td>
<td>Laboring Women: Work, Reproduction, and Leisure since Reconstruction</td>
</tr>
<tr>
<td>AMST 1906H</td>
<td>Beauty Pageants in American Society</td>
</tr>
<tr>
<td>AMST 1906I</td>
<td>Decolonizing Museums: Collecting Indigenous Culture in Taiwan and North America</td>
</tr>
</tbody>
</table>

Two additional courses under the AMST or ETHN prefix

Ungraded Capstone ePortfolio

Total Credits

Requirements for Students Who Declare Prior to Spring 2021:

Each concentrator will take 10 upper-level courses, four of which must be seminars, including a Junior Seminar (an AMST 1700 level course) and a Senior Seminar (AMST 1900 level course). Students may take as many AMST 1900 level courses as they wish, however for the course to count as a senior seminar it must be taken during the senior year.

Each concentrator will create an individual FOCUS consisting of at least three courses in consultation with the Concentration Advisor. The focus is the flexible core of the concentration. Here each student builds a coherent and dynamic interdisciplinary cluster of related courses that develops his or her compelling interest in some aspect of American experience. Courses from outside of AMST and ETHN can be counted for credit within the concentration if they relate to the concentrator’s focus area.

All seniors are required to do a capstone electronic portfolio.

Some concentrators may elect to do an Honors Thesis and are encouraged to take AMST 1800, the Honors Seminar, in the Spring of their Junior year. Students pursuing honors are required to take two independent study courses (AMST 1970) in their senior year, in addition to the regular concentration requirements (for a total of 12 credits), in order to write their honors thesis.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Requirements for the American Studies Concentration

Junior Seminar: A course from the AMST 1700 Series, for example:
- AMST 1700B Death and Dying in America
- AMST 1700C Slavery in American History, Culture and Memory
- AMST 1700D Race and Remembering
- AMST 1700F American Publics
- AMST 1700I Community Engagement with Health and the Environment

Senior Seminar: A course from the AMST 1900 series taken during the senior year, for example:
- AMST 1900A The Problem of Class in America
- AMST 1900B America and the Asian Pacific: A Cultural History
- AMST 1900C Narratives of Slavery
- AMST 1900D America as a Trans-Pacific Culture
- AMST 1900F Transnational Popular Culture
- AMST 1900G Movements, Morals, and Markets
- AMST 1900I Latina/o Cultural Theory
- AMST 1900J Race, Immigration and Citizenship
- AMST 1900K China in the American Imagination
- AMST 1900L Cold War Culture The American Culture in the Cold War
- AMST 1900N Ethnicity, Identity and Culture in 20th Century New York City
- AMST 1900Q Laboring Women: Work, Reproduction, and Leisure since Reconstruction
- AMST 1900R Decolonizing Minds: A People's History of the World
- AMST 1904V Decolonizing Minds: A People's History of the World

Honors
- AMST 1970 Independent Reading and Research (Students pursuing honors in the concentration are required to take two semesters of Independent Study to produce the Honors Thesis)

WHAT we study

American Studies at Brown is concerned with four broad themes:
- **Social Structures and the Practices of Identity**: How do communities and individuals come to define themselves, and how do others define them, in terms of, among other categories, nation, region, class, race, ethnicity, gender, sex, religion, age and sexuality? How do organizations and institutions function socially and culturally? What are the roles of social movements, economic structures, politics and government?
- **Space and Place**: How is space organized, and how do people make place? This includes the study of natural and built environments; local, regional, national and transnational communities; and international and inter-regional flows of people, goods, and ideas.
- **Production and Consumption of Culture**: How do people represent their experiences and ideas as culture? How is culture transmitted, appropriated and consumed? What is the role of artists and the expressive arts, including literature, visual arts and performance?
- **Science, Technology, and Everyday Life**: How does work and the deployment of science and technology shape American culture? How do everyday social practices of work, leisure and consumption provide agency for people?

HOW we study

American Studies at Brown emphasizes four intersecting approaches that are critical tools for understanding these themes:
- **Cultural and Social Analysis**: Reading and analyzing different kinds of texts, including literary, visual, aural, material objects and landscapes. Examining ethnic and racial groups, institutions, organizations and social movements.
- **Global/International Contextualization**: Comprehending the United States as a society and culture that has been shaped by the historical and contemporary flows of people, goods and ideas from around the world and in turn, learning about the various ways in which America has shaped the world.
- **New Media Understandings**: Understanding the creation of new forms of discourse, new ways of knowing and new modes of social organization made possible by succeeding media revolutions. Using new media as a critical tool for scholarship.
- **Publicly Engaged Scholarship**: Connecting the theory and the practice of publicly-engaged research, understanding and presentation, from community-based scholarship to ethnohistory, oral history, and museum exhibits. Civic engagement might include structured and reflective participation in a local community or communities or the application of general theoretical knowledge to understanding social issues.
Anthropology

Anthropology is the study of human beings from all times and all places, offering a holistic, comparative, international, and humanistic perspective. In studying and interpreting the vast range of similarities and differences in human societies and cultures, anthropologists also seek to understand how people themselves make sense of the world in which they live. The Department of Anthropology at Brown is a vibrant, award-winning group of scholars working primarily in the subfields of cultural anthropology, archaeology, and anthropological linguistics. Anthropology is a varied discipline and the Concentration at Brown University reflects that diversity. Students concentrating in Anthropology must declare one of six possible concentration tracks: sociocultural anthropology, archaeology, anthropological linguistics, biological anthropology, medical anthropology, or general anthropology.

The department also supports students involved in Engaged Scholarship through the Swearer Center, through which students may pursue an Engaged Scholarship Certificate (https://www.brown.edu/academics/college/swearer/programs/engaged-scholars-program/13/). Study abroad is also supported and encouraged. Interested students may contact the director of undergraduate studies.

Students who declared a concentration prior to fall 2019 can refer to concentration requirements here: (https://bulletin.brown.edu/archive/2018-19/)https://bulletin.brown.edu/archive/2018-19/the-college/concentrations/anth/

### General Anthropology Track

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ANTH 0100</td>
<td>Introduction to Cultural Anthropology</td>
<td>1</td>
</tr>
<tr>
<td>ANTH 0300</td>
<td>Culture and Health</td>
<td>1</td>
</tr>
<tr>
<td>ANTH 0800</td>
<td>Sound and Symbols: Introduction to Linguistic Anthropology</td>
<td>1</td>
</tr>
</tbody>
</table>

Choose one foundational course in sociocultural, linguistic anthropology, or medical anthropology:

<table>
<thead>
<tr>
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<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTH 0310</td>
<td>Human Evolution</td>
<td>1</td>
</tr>
<tr>
<td>ANTH 0500</td>
<td>Past Forward: Discovering Anthropological Archaeology</td>
<td>1</td>
</tr>
</tbody>
</table>

Choose one foundational course in archaeology or biological anthropology:

<table>
<thead>
<tr>
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<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTH 1201</td>
<td>Introduction to Geographic Information Systems and Spatial Analysis</td>
<td>1</td>
</tr>
<tr>
<td>ANTH 1621</td>
<td>Material Culture Practicum</td>
<td>1</td>
</tr>
<tr>
<td>ANTH 1720</td>
<td>The Human Skeleton</td>
<td>1</td>
</tr>
<tr>
<td>ARCH 1900</td>
<td>The Archaeology of College Hill</td>
<td>1</td>
</tr>
<tr>
<td>ANTH 1940</td>
<td>Ethnographic Research Methods</td>
<td>1</td>
</tr>
</tbody>
</table>

Five additional courses in anthropology of the student's choosing. At least three of these electives will need to be at the 1000-level to meet the requirements of the concentration.

<table>
<thead>
<tr>
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<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTH 1990</td>
<td>Senior Seminar: (Re)Making Anthropology</td>
<td>1</td>
</tr>
</tbody>
</table>

### Medical Anthropology Track

Foundation course

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTH 0300</td>
<td>Culture and Health</td>
<td>1</td>
</tr>
</tbody>
</table>

Two courses in at least two of the four major subfields of anthropology:

Choose one:

<table>
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</thead>
<tbody>
<tr>
<td>ANTH 0310</td>
<td>Human Evolution</td>
<td>1</td>
</tr>
<tr>
<td>ANTH 0500</td>
<td>Past Forward: Discovering Anthropological Archaeology</td>
<td>1</td>
</tr>
</tbody>
</table>

### Socio-Cultural Anthropology Track

Foundation course

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<tr>
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<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTH 0100</td>
<td>Introduction to Cultural Anthropology</td>
<td>1</td>
</tr>
</tbody>
</table>

One course in archaeology or biological anthropology:

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<td>Human Evolution</td>
<td>1</td>
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</tbody>
</table>

Research methods

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTH 1940</td>
<td>Ethnographic Research Methods</td>
<td>1</td>
</tr>
</tbody>
</table>

At least two 1000-level courses that focus on specific aspects of sociocultural methods or theories, or in a particular region, such as:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTH 1111</td>
<td>Anthropology of China</td>
<td>1</td>
</tr>
<tr>
<td>ANTH 1150</td>
<td>Middle East in Anthropological Perspective</td>
<td>1</td>
</tr>
<tr>
<td>ANTH 1240</td>
<td>Religion and Culture</td>
<td>1</td>
</tr>
<tr>
<td>ANTH 1242</td>
<td>Bioethics and Culture</td>
<td>1</td>
</tr>
<tr>
<td>ANTH 1255</td>
<td>Anthropology of Disasters</td>
<td>1</td>
</tr>
<tr>
<td>ANTH 1300</td>
<td>Anthropology of Addictions and Recovery</td>
<td>1</td>
</tr>
<tr>
<td>ANTH 1301</td>
<td>Anthropology of Homelessness</td>
<td>1</td>
</tr>
<tr>
<td>ANTH 1310</td>
<td>Global Health: Anthropological Perspectives</td>
<td>1</td>
</tr>
</tbody>
</table>
Recommended courses include Introduction to Linguistics (ANTH 1201) or Sociolinguistics (SLAV 1300). Students may also choose another appropriate course to fulfill this requirement with DUS approval. Students interested in studying a language not offered at Brown should consult with Linguistic Anthropology faculty and the DUS. This course is in addition to the nine courses required in ANTH. Given the teaching commitments of departmental faculty, eligible courses will generally be offered only in departments other than Anthropology. Recommended courses include Introduction to Linguistics (CLPS 0300) or Sociolinguistics (SLAV 1300). Students may also choose another appropriate course to fulfill this requirement with DUS approval.

This course is in addition to the nine courses required in ANTH. Given the teaching commitments of departmental faculty, eligible courses will generally be offered only in departments other than Anthropology. Recommended courses include Introduction to Linguistics (CLPS 0300) or Sociolinguistics (SLAV 1300). Students may also choose another appropriate course to fulfill this requirement with DUS approval. Students interested in studying a language not offered at Brown should consult with Linguistic Anthropology faculty and the DUS.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTH 1201</td>
<td>Introduction to Geographic Information Systems and Spatial Analysis</td>
</tr>
<tr>
<td>ANTH 0100</td>
<td>Introduction to Cultural Anthropology</td>
</tr>
<tr>
<td>ANTH 0300</td>
<td>Culture and Health</td>
</tr>
<tr>
<td>ANTH 0310</td>
<td>Human Evolution</td>
</tr>
<tr>
<td>ANTH 0500</td>
<td>Past Forward: Discovering Anthropological Archaeology</td>
</tr>
<tr>
<td>ANTH 0800</td>
<td>Sound and Symbols: Introduction to Linguistic Anthropology</td>
</tr>
<tr>
<td>ANTH 0900</td>
<td>Senior Seminar: (Re)Making Anthropology</td>
</tr>
<tr>
<td>ANTH 1000</td>
<td>Introduction to Cultural Anthropology</td>
</tr>
<tr>
<td>ANTH 1201</td>
<td>Material Culture Practicum</td>
</tr>
<tr>
<td>ARCH 1900</td>
<td>The Archaeology of College Hill</td>
</tr>
<tr>
<td>ANTH 1031</td>
<td>Classic Mayan Civilization</td>
</tr>
<tr>
<td>ANTH 1126</td>
<td>Ethnographies of Heritage: Community and Landscape of the Mediterranean and Beyond</td>
</tr>
<tr>
<td>ANTH 1505</td>
<td>Vertical Civilization: South American Archaeology from Monte Verde to the Inkas</td>
</tr>
<tr>
<td>ANTH 1624</td>
<td>Indians, Colonists, and Africans in New England</td>
</tr>
<tr>
<td>ANTH 1640</td>
<td>Maize Gods and Feathered Serpents: Mexico and Central America in Antiquity</td>
</tr>
<tr>
<td>ANTH 1650</td>
<td>Ancient Maya Writing</td>
</tr>
<tr>
<td>ANTH 1692</td>
<td>Southwestern Archaeology</td>
</tr>
<tr>
<td>ANTH 1911</td>
<td>Ethnography + Social Critique</td>
</tr>
<tr>
<td>ANTH 1940</td>
<td>Ethnographic Research Methods</td>
</tr>
<tr>
<td>ANTH 1990</td>
<td>Senior Seminar: (Re)Making Anthropology</td>
</tr>
</tbody>
</table>

This requirement will be waived for students who have completed an archaeological field school. The field school must be approved in advance of its completion for the requirement to be waived. Other anthropoligical archaeology courses with significant geographic focus may be used to fulfill this requirement with DUS approval.

This requirement will be waived for students who have completed an archaeological field school. The field school must be approved in advance of its completion for the requirement to be waived. Other anthropoligical archaeology courses with significant geographic focus may be used to fulfill this requirement with DUS approval.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTH 0310</td>
<td>Human Evolution</td>
</tr>
<tr>
<td>ANTH 0300</td>
<td>Culture and Health</td>
</tr>
<tr>
<td>ANTH 0800</td>
<td>Sound and Symbols: Introduction to Linguistic Anthropology</td>
</tr>
<tr>
<td>ANTH 1720</td>
<td>The Human Skeleton</td>
</tr>
</tbody>
</table>

For up-to-date course information please visit Courses@Brown.edu (https://cabs.brown.edu).
At least one non-anthropology course with a biological focus. Any course with a BIOL subject code can be used to fulfill this requirement. Students are especially encouraged to consider a course with a significant content devoted to genetics and/or evolutionary theory. This course is in addition to the nine courses required in ANTH.

Choose at least one course in statistics. This course is in addition to the nine courses required in ANTH. Possible courses include:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>APMA 0650</td>
<td>Essential Statistics</td>
</tr>
<tr>
<td>BIOL 0495</td>
<td>Statistical Analysis of Biological Data</td>
</tr>
<tr>
<td>CLPS 0900</td>
<td>Statistical Methods</td>
</tr>
<tr>
<td>SOC 1100</td>
<td>Introductory Statistics for Social Research</td>
</tr>
<tr>
<td>PHP 1501</td>
<td>Essentials of Data Analysis</td>
</tr>
<tr>
<td>ANTH 1990</td>
<td>Senior Seminar: (Re)Making Anthropology</td>
</tr>
</tbody>
</table>

Total Credits: 11

1 Other courses may be substituted to meet this requirement with the permission of the DUS.

Engaged Scholarship

Anthropology concentrators who are especially interested in making deeper connections between their concentration curriculum and long-term engagement with local communities in Providence and beyond may choose to pursue an Engaged Scholarship designation through the Swearer Center. Engaged scholars combine hands-on experiences such as internships, public service, humanitarian and development work with their academic learning in order to develop a deeper understanding of, and appreciation for, social engagement. While most anthropology courses have some sort of ‘engaged’ element, being an Engaged Scholar in Anthropology means making a commitment to engaging more actively and intensively with the communities in which a student is living.

All Anthropology tracks are compatible with the Engaged Scholarship Certificate.

Honors

Candidates for honors should apply to the concentration advisor by the end of their 6th semester, but no later than the 4th week of the 7th semester. An application consists of a thesis proposal of 2-3 pages, describing the major research questions and methods to be used. Candidates will prepare their proposals in close consultation with their primary advisor. Candidates for honors are required to:

1. Fulfill the standard concentration requirements.
2. Have completed at least two thirds of the concentration requirements by the end of the sixth semester.
3. Be in good standing
4. Have earned a majority of “A” grades in the concentration. Classes taken S/NC will count as qualifying towards that majority if they are marked “S” with distinction” indicating that had the student taken the course for a grade, the grade would have been an “A.”

Honors candidates will:

1. Take two additional independent study courses (1970), usually, which may be used for thesis preparation with the advisor.
2. In consultation with the primary thesis advisor, identify a second reader by the start of the seventh semester.
3. Submit an approved honors thesis by the deadline stipulated each year.
4. Present the thesis in the Honors Theses Symposium in the Anthropology department.

More information on honors is available here: https://www.brown.edu/academics/anthropology/honors (https://www.brown.edu/academics/anthropology/honors/)

Applied Mathematics

Applied Mathematics has a profound impact on our daily lives. Whether it is search engines, climate modeling, weather forecasts, artificial intelligence, secure online shopping, brain imaging, or movie recommendations, none of these would work the way they do without algorithms and tools from the mathematical sciences. More generally, Applied Mathematics is an inherently interdisciplinary subject, covering problems arising in all areas of science, technology, and engineering. Our courses provide a broad qualitative and quantitative background for use in these fields.

Applied Mathematics appeals to people with a variety of different interests, ranging from those with a desire to obtain a good quantitative background for use in some future career, to those who wish to have a better understanding of the basic mathematical aspects of other fields, or to those who are interested in the fundamental mathematical techniques and approaches in themselves. The program stresses but is not limited to scientific computing, differential equations, probability, and statistics, which are areas of mathematics that are used most often in applications in our society, and industry. Our curriculum is flexible enough to meet the goals and interests of a very wide range of students.

Students take courses in applied mathematics for many reasons, not necessarily with an applied mathematics concentration in mind. The value of learning about applied mathematics goes beyond a career opportunity. It provides an education in the use of quantitative methods in thinking about and solving problems, knowledge that is valuable in all walks of life.


The concentration in Applied Mathematics is the most flexible of all of our concentrations. Students are required to build a foundation in calculus, linear algebra, differential equations, and basic computer programming. Beyond these foundations, there is a great deal of flexibility as to which areas of mathematics and which areas of applications are pursued. Both the A.B. and the Sc.B. allow students to earn concentration credit by taking advanced courses in almost any of the STEM (Science, Technology, Engineering, Mathematics) disciplines. The purpose is to encourage students to develop expertise in both mathematics and an applied area that might be amenable to mathematical investigation.

Both the A.B. and Sc.B. concentrations in Applied Mathematics require certain basic courses to be taken, but beyond this there is a great deal of flexibility as to which areas of application are pursued. Students are encouraged to take courses in applied mathematics, mathematics and one or more of the application areas in the natural sciences, social sciences or engineering. Whichever areas are chosen should be studied in some depth.

Standard program for the A.B. degree.

Prerequisites - the equivalent of two semesters of single-variable calculus

Single-variable calculus is not an enforced requirement for our concentration, but it is a required prerequisite for many of our courses. At Brown, single-variable calculus consists of MATH 0090 followed by one of MATH 0100, MATH 0170, or MATH 0190.

Requirements - 10 courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 0180</td>
<td>Multivariable Calculus</td>
<td>1</td>
</tr>
<tr>
<td>or MATH 0200</td>
<td>Multivariable Calculus (Physics/Engineering)</td>
<td>1</td>
</tr>
<tr>
<td>or MATH 0350</td>
<td>Multivariable Calculus With Theory</td>
<td>1</td>
</tr>
<tr>
<td>MATH 0520</td>
<td>Linear Algebra</td>
<td>1</td>
</tr>
<tr>
<td>or MATH 0540</td>
<td>Linear Algebra With Theory</td>
<td>1</td>
</tr>
<tr>
<td>APMA 0350</td>
<td>Applied Ordinary Differential Equations</td>
<td>1</td>
</tr>
<tr>
<td>APMA 0360</td>
<td>Applied Partial Differential Equations</td>
<td>1</td>
</tr>
</tbody>
</table>

One approved course on computer programming.

For up-to-date course information please visit Courses@Brown.edu (https://cabs.brown.edu).
Three 1000-level or higher APMA courses. 5
One 1000-level or higher APMA or MATH course. 5
One 1000-level or higher course in a STEM discipline that demonstrates depth in an area amenable to mathematical investigation and that is approved by the concentration advisor. 6

Total Credits 10

1 A required course may be replaced by a more advanced course with concentration advisor approval. No course may be used to satisfy multiple concentration requirements. Transfer credits and courses receiving placement credit notation can satisfy concentration credit as long as they appear on the Brown internal transcript. Pursuing honors will require 17 courses – these 16 along with two semesters of independent study courses for the honors research project, one of which can be used to satisfy the capstone concentration requirement.

2 APMA 0330 or MATH 1110 may be used in place of APMA 0350. If MATH 1110 is used, then the concentration must include at least five 1000-level or higher APMA courses (not including APMA 1910 or research/independent study courses).

3 APMA 0340 or MATH 1120 may be used in place of APMA 0360. If MATH 1120 is used, then the concentration must include at least four 1000-level or higher APMA courses (not including APMA 1910 or research/independent study courses).

4 Concentrators are encouraged to complete the computing requirement before the end of their sophomore year. The following courses are automatically approved: APMA 0160, APMA 0200, CSCI 0111, CSCI 0150, CSCI 0170, CSCI 0190, CSCI 0200, CLPS 0950.

5 APMA 1910 and research/independent study courses cannot be used.

6 STEM = Science, Technology, Engineering, Mathematics. Most upper-level courses in APMA, CSCI, ECON, ENGN, MATH, or any of the sciences will be approved, including APMA 1910. Upper-level courses in other areas may also be approved if the connection to applied mathematics is clear. Concentration advisors may approve a group of lower-level courses as a substitute for a single upper-level course if the group collectively demonstrates depth in a STEM area. Lower-level APMA, CSCI, and MATH courses and independent study/research courses cannot be used.

Standard program for the Sc.B. degree.

Requirements - the equivalent of two semesters of single-variable calculus

Single-variable calculus is not an enforced requirement for our concentration, but it is a required prerequisite for many of our courses. At Brown, single-variable calculus consists of MATH 0090 followed by one of MATH 0100, MATH 0170, or MATH 0190.

Requirements - 16 courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>APMA 1910</td>
<td>Multivariable Calculus</td>
<td>1</td>
</tr>
<tr>
<td>or MATH 0200</td>
<td>Multivariable Calculus (Physics/Engineering)</td>
<td>1</td>
</tr>
<tr>
<td>or MATH 0350</td>
<td>Multivariable Calculus With Theory</td>
<td>1</td>
</tr>
<tr>
<td>MATH 0520</td>
<td>Linear Algebra</td>
<td>1</td>
</tr>
<tr>
<td>or MATH 0540</td>
<td>Linear Algebra With Theory</td>
<td>1</td>
</tr>
<tr>
<td>APMA 0350</td>
<td>Applied Ordinary Differential Equations</td>
<td>1</td>
</tr>
<tr>
<td>APMA 0360</td>
<td>Applied Partial Differential Equations I</td>
<td>1</td>
</tr>
<tr>
<td>One approved course on computer programming</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Four 1000-level or higher APMA courses.</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Two 1000-level or higher APMA or MATH courses.</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Four 1000-level or higher courses in one or more STEM disciplines that demonstrate depth in areas amenable to mathematical investigation and that are approved by the concentration advisor.</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>One approved capstone, senior seminar, or research-related course.</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

Total Credits 16

1 A required course may be replaced by a more advanced course with concentration advisor approval. No course may be used to satisfy multiple concentration requirements. Transfer credits and courses receiving placement credit notation can satisfy concentration credit as long as they appear on the Brown internal transcript. Pursuing honors will require 17 courses – these 16 along with two semesters of independent study courses for the honors research project, one of which can be used to satisfy the capstone concentration requirement.

2 APMA 0330 or MATH 1110 may be used in place of APMA 0350. If MATH 1110 is used, then the concentration must include at least five 1000-level or higher APMA courses (not including APMA 1910 or research/independent study courses).

3 APMA 0340 or MATH 1120 may be used in place of APMA 0360. If MATH 1120 is used, then the concentration must include at least five 1000-level or higher APMA courses (not including APMA 1910 or research/independent study courses).

4 Concentrators are encouraged to complete the computing requirement before the end of their sophomore year. The following courses are automatically approved: APMA 0160, APMA 0200, CSCI 0111, CSCI 0150, CSCI 0170, CSCI 0190, CSCI 0200, CLPS 0950.

5 APMA 1910 and research/independent study courses cannot be used.

6 STEM = Science, Technology, Engineering, Mathematics. Most upper-level courses in APMA, CSCI, ECON, ENGN, MATH, or any of the sciences will be approved, including APMA 1910. Upper-level courses in other areas may also be approved if the connection to applied mathematics is clear. Concentration advisors may approve a group of lower-level courses as a substitute for a single upper-level course if the group collectively demonstrates depth in a STEM area. Lower-level APMA, CSCI, and MATH courses and independent study/research courses cannot be used.

Professional Tracks

The requirements for the professional tracks include all those of each of the standard tracks, as well as the following:

Students must complete full-time professional experiences doing work that is related to their concentration programs, totaling 2-6 months, whereby each internship must be at least one month in duration in cases where students choose to do more than one internship experience. Such work is normally done at a company, but may also be at a university under the supervision of a faculty member. Internships that take place between the end of the fall and the start of the spring semesters cannot be used to fulfill this requirement.

On completion of each professional experience, the student must write and upload to ASK a reflective essay about the experience, to be approved by the student's concentration advisor, addressing these questions:

- Which courses were put to use in your summer's work? Which topics, in particular, were important?
- In retrospect, which courses should you have taken before embarking on your summer experience? What are the topics from these courses that would have helped you over the summer if you had been more familiar with them?
- Are there topics you should have been familiar with in preparation for your summer experience, but are not taught at Brown? What are these topics?
- What did you learn from the experience that probably could not have been picked up from course work?
- Is the sort of work you did over the summer something you would like to continue doing once you graduate? Explain.
- Would you recommend your summer experience to other Brown students? Explain.

Honors

Concentrators (A.B. or Sc.B.) that demonstrate excellence in grades and in undergraduate research can be awarded departmental honors. Complete guidelines, requirements, and deadlines for honors are
Applied Mathematics-Biology

Biology, the science of all life and living matter, is an incredibly diverse discipline offering students the opportunity to learn about topics ranging from the fundamental chemical reactions that fuel all living organisms to the population dynamics of entire ecosystems all the way to the question of how our brains give rise to the complexities of human cognition and experience. Applied mathematics is an increasingly important component of modern biological investigation. Modern technologies have enabled the creation of vast new biological data sets that often require sophisticated mathematical and statistical models for interpretation and analysis. Advances in computing have similarly enabled the simulation of biological phenomena at increasingly fine levels of detail. Entire subfields, such as bioinformatics and computational neuroscience, have developed around these new paradigms of biological investigation. The foundations of these new fields are inherently mathematical, with a focus on probability, statistical inference, and systems dynamics.

The Applied Mathematics – Biology concentration allows students to develop complementary expertise in biology and applied mathematics. Students will focus their advanced biological coursework in an area of particular interest to them. The applied math requirements emphasize those areas of mathematics that have found widespread use throughout all of the biological sciences. The program culminates in a senior capstone experience that enables students to participate in creative research collaborations with faculty.

Standard program for the Sc.B. degree

Required coursework in this program aims at ensuring expertise in mathematical and statistical sciences, and their application in biology. The students will focus in particular areas of biology. The program culminates in a senior capstone experience that pairs student and faculty in creative research collaborations. Applied Math – Biology concentrators are prepared for careers in medicine, public health, industry and academic research.

Required Courses:

Students are required to take all of the following courses.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 0090</td>
<td>Single Variable Calculus, Part I</td>
<td>1</td>
</tr>
<tr>
<td>MATH 0100</td>
<td>Single Variable Calculus, Part II</td>
<td>1</td>
</tr>
<tr>
<td>or MATH 0170</td>
<td>Single Variable Calculus, Part II (Accelerated)</td>
<td>1</td>
</tr>
<tr>
<td>MATH 0180</td>
<td>Multivariable Calculus</td>
<td>1</td>
</tr>
<tr>
<td>MATH 0520</td>
<td>Linear Algebra</td>
<td>1</td>
</tr>
<tr>
<td>or MATH 0540</td>
<td>Linear Algebra With Theory</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 0330</td>
<td>Equilibrium, Rate, and Structure</td>
<td>1</td>
</tr>
<tr>
<td>or PHYS 0050</td>
<td>Foundations of Mechanics</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><strong>Select one of the following sequences:</strong></td>
<td>2</td>
</tr>
<tr>
<td>APMA 0350</td>
<td>Applied Ordinary Differential Equations</td>
<td></td>
</tr>
<tr>
<td>or APMA 0360</td>
<td>Applied Partial Differential Equations I</td>
<td></td>
</tr>
<tr>
<td>APMA 0330</td>
<td>Methods of Applied Mathematics I</td>
<td></td>
</tr>
<tr>
<td>or APMA 0340</td>
<td>Methods of Applied Mathematics II</td>
<td></td>
</tr>
<tr>
<td>APMA 1650</td>
<td>Statistical Inference I</td>
<td>1</td>
</tr>
<tr>
<td>or APMA 1655</td>
<td>Honors Statistical Inference I</td>
<td></td>
</tr>
</tbody>
</table>

APMA 1070 Quantitative Models of Biological Systems 1
APMA 1080 Inference in Genomics and Molecular Biology or NEUR 2110 Statistical Neuroscience
BIOL 0200 The Foundation of Living Systems

Additional Courses

One additional course in Applied Math or Biology

We strongly recommend that Applied Mathematics-Biology concentrators take one of the programming courses on or before their first semester as a concentrator. Those who do can use it to satisfy this requirement:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>APMA 0160</td>
<td>Introduction to Scientific Computing</td>
<td>1</td>
</tr>
<tr>
<td>CSCI 0040</td>
<td>Introduction to Scientific Computing and Problem Solving</td>
<td>1</td>
</tr>
<tr>
<td>CSCI 0111</td>
<td>Computing Foundations: Data</td>
<td></td>
</tr>
<tr>
<td>CSCI 0150</td>
<td>Introduction to Object-Oriented Programming and Computer Science</td>
<td>1</td>
</tr>
<tr>
<td>CSCI 0170</td>
<td>Computer Science: An Integrated Introduction</td>
<td></td>
</tr>
<tr>
<td>CSCI 0190</td>
<td>Accelerated Introduction to Computer Science</td>
<td></td>
</tr>
<tr>
<td>CLPS 0950</td>
<td>Introduction to programming</td>
<td></td>
</tr>
</tbody>
</table>

One research-related course in Applied Math or Biology. For example:

A senior seminar course from the APMA 193X, 194X series
A directed research/independent study course from the APMA 1970, 1971, or BIOL 1950, 1960, or NEUR 1970 series
A directed research/independent study course in a related discipline (i.e. STEM disciplines, ENV6, PHP, etc.) if the project is relevant to the student’s learning goals in the concentration and with approval from the concentration advisor.

A pre-approved course that satisfies the Biology AB capstone requirement: BIOL 1100, 1250, 1515, 1555, 1565, 1575, 1600, 1620, 1970.

A relevant CURE (Course-based Undergraduate Research Experience) course: BIOL 0190R, 0190S, 0285, 0440, 0600, 0840G, 1515, 1555; NEUR 1630, CLPS 1195.

A non-research course related to the concentration along with a research experience equivalent in scope and scale to work the student would pursue in an Applied Math or Biology independent study course. Examples include UTRAs, LINK awards, research programs at other institutions, etc. This requires approval from the concentration advisor and appropriate documentation.

Other equivalent opportunities not listed - with approval from the concentration advisor.

Four classes in the biological sciences agreed upon by the student and advisor. These four courses should form a cohesive grouping in a specific area of emphasis, at least two of which should be at the 1000-level. Some example groupings are below:

Areas of Emphasis and Suggested Courses:

Some areas of possible emphasis for focusing of elective courses are listed below. Given the large number of course offerings in the biosciences and neuroscience, students are free to explore classes in these areas that are not listed below. However, all classes must be approved by the concentration advisor. APMA 1910 cannot be used as an elective.

Biochemistry

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 0280</td>
<td>Biochemistry</td>
</tr>
<tr>
<td>BIOL 1270</td>
<td>Advanced Biochemistry</td>
</tr>
<tr>
<td>CHEM 0350</td>
<td>Organic Chemistry I</td>
</tr>
<tr>
<td>or CHEM 0360</td>
<td>Organic Chemistry II</td>
</tr>
<tr>
<td>CHEM 1230</td>
<td>Chemical Biology</td>
</tr>
</tbody>
</table>
Professional Tracks

The requirements for the professional tracks include all those of each of the standard tracks, as well as the following:

Students must complete full-time professional experiences doing work that is related to their concentration programs, totaling 2-6 months, whereby each internship must be at least one month in duration in cases where students choose to do more than one internship experience. Such work is normally done at a company, but may also be at a university under the supervision of a faculty member. Internships that take place between the end of the fall and the start of the spring semesters cannot be used to fulfill this requirement.

On completion of each professional experience, the student must write and upload to ASK a reflective essay about the experience, to be approved by the student’s concentration advisor, addressing these questions:

- Which courses were put to use in your summer’s work? Which topics, in particular, were important?
- In retrospect, which courses should you have taken before embarking on your summer experience? What are the topics from these courses that would have helped you over the summer if you had been more familiar with them?
- Are there topics you should have been familiar with in preparation for your summer experience, but are not taught at Brown? What are these topics?
- What did you learn from the experience that probably could not have been picked up from course work?
- Is the sort of work you did over the summer something you would like to continue doing once you graduate? Explain.

Honors

Concentrators that demonstrate excellence in grades and in undergraduate research can be awarded departmental honors. Complete guidelines, requirements, and deadlines for honors are published on the APMA departmental website (https://appliedmath.brown.edu/academics/undergraduate-program/honors/). The main requirements include:

- Earning grades of A or S-with-distinction in at least 70% of the courses used for concentration credit, excluding calculus and linear algebra, by the end of the penultimate semester.
- Completion of an in-depth, original research project in a STEM discipline carried out under the guidance of a Brown-affiliated faculty advisor and documented with the completion of two semesters of independent study courses under the advisor’s supervision.
- Completion of an honors thesis describing this research project that also demonstrates both the use of mathematical methodology in the project and the relevance to the biological sciences.

Applied Mathematics-Computer Science

The Sc.B. concentration in Applied Math-Computer Science provides a foundation of basic concepts and methodology of mathematical analysis and computation and prepares students for advanced work in applied mathematics, computer science, and data science. Concentrators must complete courses in mathematics, applied math, computer science, and an approved English writing course. While the concentration in Applied Math-Computer Science allows students to develop the use of quantitative methods in thinking about and solving problems, knowledge that is valuable in all walks of life, students who have completed the concentration have pursued graduate study, computer consulting and information industries, and scientific and statistical analysis careers in industry or government. This degree offers a standard track and a professional track.

Requirements for the Standard Track of the Sc.B. degree.

Prerequisites - two semesters of Calculus, for example

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 0090</td>
<td>Single Variable Calculus, Part I</td>
</tr>
<tr>
<td>MATH 0100</td>
<td>Single Variable Calculus, Part II</td>
</tr>
</tbody>
</table>

Concentration Requirements (17 courses)

Core-Math:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 0180</td>
<td>Multivariable Calculus</td>
</tr>
<tr>
<td>or MATH 0350</td>
<td>Multivariable Calculus With Theory</td>
</tr>
<tr>
<td>MATH 0520</td>
<td>Linear Algebra</td>
</tr>
<tr>
<td>or MATH 0540</td>
<td>Linear Algebra With Theory</td>
</tr>
<tr>
<td>or CSCI 0530</td>
<td>Coding the Matrix: An Introduction to Linear Algebra for Computer Science</td>
</tr>
</tbody>
</table>

Core-APM:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>APMA 0350</td>
<td>Applied Ordinary Differential Equations</td>
</tr>
<tr>
<td>APMA 0360</td>
<td>Applied Partial Differential Equations I</td>
</tr>
<tr>
<td>APMA 1160</td>
<td>An Introduction to Numerical Optimization</td>
</tr>
<tr>
<td>or APMA 1170</td>
<td>Introduction to Computational Linear Algebra</td>
</tr>
<tr>
<td>or APMA 1180</td>
<td>Introduction to Numerical Solution of Differential Equations</td>
</tr>
<tr>
<td>or APMA 1690</td>
<td>Computational Probability and Statistics</td>
</tr>
<tr>
<td>or APMA 1740</td>
<td>Recent Applications of Probability and Statistics</td>
</tr>
</tbody>
</table>

Core-CSC:

Select one of the following Series:

- Series A

For up-to-date course information please visit Courses@Brown.edu (https://courses.brown.edu).
CSCI 0150 & CSCI 0160: Introduction to Object-Oriented Programming and Computer Science and Introduction to Algorithms and Data Structures

Series B
CSCI 0170 & CSCI 0180: Computer Science: An Integrated Introduction and Computer Science: An Integrated Introduction

Series C
CSCI 0190: Accelerated Introduction to Computer Science (and an additional CS course not otherwise used to satisfy a concentration requirement; this course may be CSCI 0180, an intermediate-level CS course, or a 1000-level course)

Series D

Select three of the following intermediate-level courses, one of which must be math-oriented and one systems-oriented. The intermediate courses must cover the requirements of the pathway chosen under additional requirements for CS.

CSCI 0220: Introduction to Discrete Structures and Probability
CSCI 0320: Introduction to Software Engineering
CSCI 0330: Introduction to Computer Systems
or CSCI 0300: Fundamentals of Computer Systems
CSCI 1010: Theory of Computation
CSCI 1450: Advanced Introduction to Probability for Computing and Data Science
or APMA 1650: Statistical Inference

Three 1000-level Computer Science courses. Two of these courses and the intermediate courses must satisfy one of the CS pathways. Non-CSCI courses are not allowed, even if they are approved as part of a CS pathway or allowed as part of a pure CS concentration. At most one of the three courses can be a designated arts, humanities, or social science oriented CS concentration credit will be given for only one of Applied Math or CSCI 1450. However, concentration credit will be given for only one of Applied Math 1650, 1655, and CSCI 1450.

Total Credits
1 Students wishing to go directly from CSCI 0111 to CSCI 0180 in the 2020-21 academic year will need to successfully complete additional exercises to receive an instructor override code for CSCI 0180. Students from prior CSCI 0111 offerings should contact Professor Fisler to arrange to do this work.
2 APMA 1650 can only be used if not being used as an Applied Math course.
3 Pathways may be viewed here: https://cs.brown.edu/degrees/undergrad/concentrating-in-cs/concentration-requirements-2020/pathways-for-undergraduate-and-masters-students/
4 Capstone Options may be found here: https://cs.brown.edu/degrees/undergrad/concentrating-in-cs/concentration-requirements-2020/capstone/

Professional Tracks
The requirements for the professional tracks include all those of each of the standard tracks, as well as the following:

Students must complete full-time professional experiences doing work that is related to their concentration programs, totaling 2-6 months, whereby each internship must be at least one month in duration in cases where students choose to do more than one internship experience. Such work is normally done at a company, but may also be at a university under the supervision of a faculty member. Internships that take place between the end of the fall and the start of the spring semesters cannot be used to fulfill this requirement.

On completion of each professional experience, the student must write and upload to ASK a reflective essay about the experience, to be approved by the student’s concentration advisor:

- Which courses were put to use in your summer’s work? Which topics, in particular, were important?
- In retrospect, which courses should you have taken before embarking on your summer experience? What are the topics from these courses that would have helped you over the summer if you had been more familiar with them?
- Are there topics you should have been familiar with in preparation for your summer experience, but are not taught at Brown? What are these topics?
- What did you learn from the experience that probably could not have been picked up from course work?
- Is the sort of work you did over the summer something you would like to continue doing once you graduate? Explain.
- Would you recommend your summer experience to other Brown students? Explain.

Honors
Concentrators that demonstrate excellence in grades and in undergraduate research can be awarded departmental honors. Honors students with primary advisors in Applied Math should follow the guidelines, requirements, and deadlines for honors as described in the bulletin for Applied Math concentrators (https://bulletin.brown.edu/the-college/concentrations/apma/) and as published on the APMA departmental website (https://appliedmath.brown.edu/academics/undergraduate-program/honors/). Honors students with primary advisors for up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Applied Mathematics-Economics

The Applied Mathematics-Economics concentration is designed to reflect the mathematical and statistical nature of modern economic theory and empirical research. This concentration has two tracks. The first is the advanced economics track, which is intended to prepare students for graduate study in economics. The second is the mathematical finance track, which is intended to prepare students for graduate study in finance, or for careers in finance or financial engineering. Both tracks have A.B. degree versions and Sc.B. degree versions, as well as a Professional track option. If you are interested in declaring a concentration in Applied Mathematics-Economics, please refer to this page (https://economics.brown.edu/academics/undergraduate/concentrations) for more information regarding the process.

Standard Program for the A.B. degree
(Advanced Economics track):

<table>
<thead>
<tr>
<th>Prerequisites:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 0100</td>
<td>Single Variable Calculus, Part II</td>
</tr>
<tr>
<td>MATH 0520</td>
<td>Linear Algebra</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course Requirements:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied Mathematics Requirements</td>
<td></td>
</tr>
<tr>
<td>(a) 1</td>
<td></td>
</tr>
<tr>
<td>APMA 0350</td>
<td>Applied Ordinary Differential Equations</td>
</tr>
<tr>
<td>&amp; APMA 0360</td>
<td>and Applied Partial Differential Equations</td>
</tr>
<tr>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

Select one of the following: 1

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>APMA 0160</td>
<td>Introduction to Scientific Computing</td>
</tr>
<tr>
<td>(preferred)</td>
<td></td>
</tr>
<tr>
<td>APMA 0200</td>
<td>Introduction to Modeling</td>
</tr>
<tr>
<td>CSCI 0111</td>
<td>Computing Foundations: Data</td>
</tr>
<tr>
<td>CSCI 0150</td>
<td>Introduction to Object-Oriented Programming and Computer Science</td>
</tr>
<tr>
<td>CSCI 0170</td>
<td>Computer Science: An Integrated Introduction</td>
</tr>
<tr>
<td>CSCI 0190</td>
<td>Accelerated Introduction to Computer Science</td>
</tr>
</tbody>
</table>

Select one of the following: 1

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>APMA 1200</td>
<td>Operations Research: Probabilistic Models</td>
</tr>
<tr>
<td>or APMA 1210</td>
<td>Operations Research: Deterministic Models</td>
</tr>
</tbody>
</table>

Select one of the following: 1

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>APMA 1650</td>
<td>Statistical Inference</td>
</tr>
<tr>
<td>or APMA 1655</td>
<td>Honors Statistical Inference</td>
</tr>
</tbody>
</table>

(b) 1

Select one of the following: 1

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>APMA 1160</td>
<td>An Introduction to Numerical Optimization</td>
</tr>
<tr>
<td>APMA 1180</td>
<td>Introduction to Numerical Solution of Differential Equations</td>
</tr>
<tr>
<td>APMA 1200</td>
<td>Operations Research: Probabilistic Models</td>
</tr>
<tr>
<td>APMA 1210</td>
<td>Operations Research: Deterministic Models</td>
</tr>
<tr>
<td>APMA 1330</td>
<td>Applied Partial Differential Equations II</td>
</tr>
<tr>
<td>APMA 1360</td>
<td>Applied Dynamical Systems</td>
</tr>
<tr>
<td>APMA 1660</td>
<td>Statistical Inference II</td>
</tr>
<tr>
<td>APMA 1690</td>
<td>Computational Probability and Statistics</td>
</tr>
</tbody>
</table>

| APMA 1670   | Statistical Analysis of Time Series |
| APMA 1680   | Nonparametric Statistics |
| APMA 1690   | Computational Probability and Statistics |
| APMA 1710   | Information Theory |
| APMA 1720   | Monte Carlo Simulation with Applications to Finance |
| APMA 1740   | Recent Applications of Probability and Statistics |
| APMA 1860   | Graphs and Networks |
| MATH 1010   | Analysis: Functions of One Variable |
| APMA 193X, 194X | Senior Seminar series, depending on topic |

Economics Requirements:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 1130</td>
<td>Intermediate Microeconomics</td>
</tr>
<tr>
<td>(Mathematical) 3</td>
<td></td>
</tr>
<tr>
<td>ECON 1210</td>
<td>Intermediate Macroeconomics</td>
</tr>
<tr>
<td>ECON 1630</td>
<td>Mathematical Econometrics I</td>
</tr>
</tbody>
</table>

Two 1000-level courses from the “mathematical-economics” group: 2

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 1170</td>
<td>Welfare Economics and Social Choice Theory</td>
</tr>
<tr>
<td>ECON 1225</td>
<td>Advanced Microeconomics: Monetary, Fiscal, and Stabilization Policies</td>
</tr>
<tr>
<td>ECON 1255</td>
<td>Unemployment: Models and Policies</td>
</tr>
<tr>
<td>ECON 1470</td>
<td>Bargaining Theory and Applications</td>
</tr>
<tr>
<td>ECON 1490</td>
<td>Designing Internet Marketplaces</td>
</tr>
<tr>
<td>ECON 1545</td>
<td>Topics in Macroeconomics, Development and International Economics</td>
</tr>
<tr>
<td>ECON 1640</td>
<td>Mathematical Econometrics II</td>
</tr>
<tr>
<td>ECON 1660</td>
<td>Big Data</td>
</tr>
<tr>
<td>ECON 1670</td>
<td>Advanced Topics in Econometrics</td>
</tr>
<tr>
<td>ECON 1680</td>
<td>Machine Learning, Text Analysis, and Economics</td>
</tr>
<tr>
<td>ECON 1750</td>
<td>Investments II</td>
</tr>
<tr>
<td>ECON 1805</td>
<td>Economics in the Laboratory</td>
</tr>
<tr>
<td>ECON 1820</td>
<td>Theory of Behavioral Economics</td>
</tr>
<tr>
<td>ECON 1850</td>
<td>Theory of Economic Growth</td>
</tr>
<tr>
<td>ECON 1860</td>
<td>The Theory of General Equilibrium</td>
</tr>
<tr>
<td>ECON 1870</td>
<td>Game Theory and Applications to Economics</td>
</tr>
</tbody>
</table>

One 1000-level course from the “data methods” group: 4

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 1301</td>
<td>Economics of Education I</td>
</tr>
<tr>
<td>ECON 1310</td>
<td>Labor Economics</td>
</tr>
<tr>
<td>ECON 1315</td>
<td>Health, Education, and Social Policy</td>
</tr>
<tr>
<td>ECON 1340</td>
<td>Economics of Global Warming</td>
</tr>
<tr>
<td>ECON 1355</td>
<td>Environmental Issues in Development Economics</td>
</tr>
<tr>
<td>ECON 1360</td>
<td>Health Economics</td>
</tr>
<tr>
<td>ECON 1375</td>
<td>Inequality of Opportunity in the US</td>
</tr>
<tr>
<td>ECON 1400</td>
<td>The Economics of Mass Media</td>
</tr>
<tr>
<td>ECON 1430</td>
<td>The Economics of Social Policy</td>
</tr>
<tr>
<td>ECON 1480</td>
<td>Public Economics</td>
</tr>
<tr>
<td>ECON 1510</td>
<td>Economic Development</td>
</tr>
<tr>
<td>ECON 1530</td>
<td>Health, Hunger and the Household in Developing Countries</td>
</tr>
<tr>
<td>ECON 1629</td>
<td>Applied Research Methods for Economists</td>
</tr>
<tr>
<td>ECON 1640</td>
<td>Mathematical Econometrics II</td>
</tr>
<tr>
<td>ECON 1660</td>
<td>Big Data</td>
</tr>
<tr>
<td>ECON 1670</td>
<td>Advanced Topics in Econometrics</td>
</tr>
<tr>
<td>ECON 1680</td>
<td>Machine Learning, Text Analysis, and Economics</td>
</tr>
</tbody>
</table>

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 1825</td>
<td>Behavioral Economics and Public Policy</td>
</tr>
<tr>
<td>ECON 1830</td>
<td>Behavioral Finance</td>
</tr>
<tr>
<td></td>
<td>One additional 1000-level economics course.</td>
</tr>
<tr>
<td></td>
<td><strong>Total Credits</strong> 13</td>
</tr>
<tr>
<td>1</td>
<td>No course may be used to simultaneously satisfy (a) and (b).</td>
</tr>
<tr>
<td>2</td>
<td>APMA 0330 and APMA 0340 may be substituted with advisor approval, but these are no longer being offered.</td>
</tr>
<tr>
<td>3</td>
<td>Or ECON 1110 with permission. For students matriculating at Brown in Fall 2021 or later, note that if ECON 1110 is used, then one additional course from the mathematical-economics group will be required.</td>
</tr>
<tr>
<td>4</td>
<td>No course may be used to simultaneously satisfy the &quot;mathematical economics&quot; and the &quot;data methods&quot; requirements.</td>
</tr>
<tr>
<td>5</td>
<td>Note that ECON 1620, ECON 1960, and ECON 1970 (independent study) cannot be used for concentration credit. However, 1620 and 1960 can be used for university credit and up to two 1970s may be used for university credit.</td>
</tr>
<tr>
<td>6</td>
<td>Requires written approval of the Director of Undergraduate Studies in Economics. APMA 1910 is not permitted.</td>
</tr>
</tbody>
</table>

**Standard program for the Sc.B. degree (Advanced Economics track):**

**Prerequisites:**

- MATH 0100 Single Variable Calculus, Part II
- MATH 0520 Linear Algebra

**Course Requirements:**

**Applied Mathematics Requirements**

(a) 1


Select one of the following: 1

- APMA 0160 Introduction to Scientific Computing (preferred)
- APMA 0200 Introduction to Modeling
- CSCI 0111 Computing Foundations: Data
- CSCI 0190 Accelerated Introduction to Computer Science
- CSCI 0150 Introduction to Object-Oriented Programming and Computer Science
- CSCI 0170 Computer Science: An Integrated Introduction

Select one of the following: 1

- APMA 1200 Operations Research: Probabilistic Models
- APMA 1210 Operations Research: Deterministic Models
- APMA 1650 or APMA 1655 Honors Statistical Inference I

(b) 1

Select two of the following: 2

- APMA 1160 An Introduction to Numerical Optimization
- APMA 1180 Introduction to Numerical Solution of Differential Equations
- APMA 1200 Operations Research: Probabilistic Models
- APMA 1210 Operations Research: Deterministic Models
- APMA 1330 Applied Partial Differential Equations II
- APMA 1360 Applied Dynamical Systems
- APMA 1660 Statistical Inference II
- APMA 1670 Statistical Analysis of Time Series
- APMA 1680 Nonparametric Statistics
- APMA 1690 Computational Probability and Statistics
- APMA 1710 Information Theory

**Economics Requirements:**

(b) 1

- APMA 1720 Monte Carlo Simulation with Applications to Finance
- APMA 1740 Recent Applications of Probability and Statistics
- APMA 1860 Graphs and Networks
- MATH 1010 Analysis: Functions of One Variable
- APMA 193X, 194X Senior Seminar series, depending on topic

**Economics Requirements:**

- ECON 1130 Intermediate Microeconomics (Mathematical)
- ECON 1210 Intermediate Macroeconomics
- ECON 1630 Mathematical Econometrics I
- Three 1000-level courses from the "mathematical-economics" group: 3
- ECON 1170 Welfare Economics and Social Choice Theory
- ECON 1225 Advanced Macroeconomics: Monetary, Fiscal, and Stabilization Policies
- ECON 1255 Unemployment: Models and Policies
- ECON 1470 Bargaining Theory and Applications
- ECON 1490 Designing Internet Marketplaces
- ECON 1545 Topics in Macroeconomics, Development and International Economics
- ECON 1640 Mathematical Econometrics II
- ECON 1660 Big Data
- ECON 1670 Advanced Topics in Econometrics
- ECON 1680 Machine Learning, Text Analysis, and Economics
- ECON 1750 Investments II
- ECON 1805 Economics in the Laboratory
- ECON 1820 Theory of Behavioral Economics
- ECON 1850 Theory of Economic Growth
- ECON 1860 The Theory of General Equilibrium
- ECON 1870 Game Theory and Applications to Economics

One 1000-level course from the "data methods" group: 4

- ECON 1301 Economics of Education I
- ECON 1310 Labor Economics
- ECON 1315 Health, Education, and Social Policy
- ECON 1340 Economics of Global Warming
- ECON 1355 Environmental Issues in Development Economics
- ECON 1360 Health Economics
- ECON 1375 Inequality of Opportunity in the US
- ECON 1400 The Economics of Mass Media
- ECON 1430 The Economics of Social Policy
- ECON 1480 Public Economics
- ECON 1510 Economic Development
- ECON 1530 Health, Hunger and the Household in Developing Countries
- ECON 1629 Applied Research Methods for Economists
- ECON 1640 Mathematical Econometrics II
- ECON 1660 Big Data
- ECON 1670 Advanced Topics in Econometrics
- ECON 1680 Machine Learning, Text Analysis, and Economics
- ECON 1825 Behavioral Economics and Public Policy
- ECON 1830 Behavioral Finance

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Undergraduate Concentrations

Two additional 1000-level economics courses\(^5\) \(2\)  

Total Credits \(16\)

1. No course may be used to simultaneously satisfy (a) and (b).
2. APMA 0330 and APMA 0340 may be substituted with advisor approval, but these are no longer being offered.
3. Or ECON 1110 with permission. For students matriculating at Brown in Fall 2021 or later, note that if ECON 1110 is used, then one additional course from the mathematical-economics group will be required.
4. No course may be used to simultaneously satisfy the "mathematical economics" and the "data methods" requirements.
5. Students may apply, at most, one Economics course whose number is in the range of 1000 to 1099 toward the concentration. Note that ECON 1620, ECON 1960, and ECON 1970 (independent study) cannot be used for concentration credit. However, 1620 and 1960 can be used for university credit and up to two 1970s may be used for university credit.
6. Requires written approval of the Director of Undergraduate Studies in Economics. APMA 1910 is not permitted.

**Standard program for the A.B. degree (Mathematical Finance track):**

**Prerequisites:**

- MATH 0100 Single Variable Calculus, Part II
- MATH 0520 Linear Algebra

**Course Requirements: 13 Courses: 6 Applied Math and 7 Economics**

**Applied Mathematics Requirements**

(a) APMA 0350 Applied Ordinary Differential Equations \(2\)  
and APMA 0360 Applied Partial Differential Equations \(1\)

Select one of the following: \(1\)

- APMA 0160 Introduction to Scientific Computing (preferred)
- APMA 0200 Introduction to Modeling
- CSCI 0111 Computing Foundations: Data
- CSCI 0150 Introduction to Object-Oriented Programming and Computer Science
- CSCI 0170 Computer Science: An Integrated Introduction
- CSCI 0190 Accelerated Introduction to Computer Science
- APMA 1200 Operations Research: Probabilistic Models
- APMA 1650 Statistical Inference I
- or APMA 1655 Honors Statistical Inference I

(b) Select one of the following: \(1\)

- APMA 1160 An Introduction to Numerical Optimization
- APMA 1180 Introduction to Numerical Solution of Differential Equations
- APMA 1210 Operations Research: Deterministic Models
- APMA 1330 Applied Partial Differential Equations II
- APMA 1360 Applied Dynamical Systems
- APMA 1660 Statistical Inference II
- APMA 1670 Statistical Analysis of Time Series
- APMA 1680 Nonparametric Statistics
- APMA 1690 Computational Probability and Statistics
- APMA 1710 Information Theory
- APMA 1720 Monte Carlo Simulation with Applications to Finance (preferred)

**Economics Requirements:**

Select two 1000-level courses from the "financial economics" group: \(2\)

- ECON 1710 Investments I
- ECON 1720 Corporate Finance
- ECON 1730 Venture Capital, Private Equity, and Entrepreneurship
- ECON 1750 Investments II
- ECON 1760 Financial Institutions
- ECON 1780 Advanced Topics in Corporate Finance
- ECON 1830 Behavioral Finance

Select one 1000-level course from the "mathematical economics" group: \(2\)

- ECON 1170 Welfare Economics and Social Choice Theory
- ECON 1225 Advanced Macroeconomics: Monetary, Fiscal, and Stabilization Policies
- ECON 1255 Unemployment: Models and Policies
- ECON 1470 Bargaining Theory and Applications
- ECON 1490 Designing Internet Marketplaces
- ECON 1545 Topics in Macroeconomics, Development and International Economics
- ECON 1640 Mathematical Econometrics II
- ECON 1660 Big Data
- ECON 1670 Advanced Topics in Econometrics
- ECON 1680 Machine Learning, Text Analysis, and Economics
- ECON 1750 Investments II
- ECON 1805 Economics in the Laboratory
- ECON 1820 Theory of Behavioral Economics
- ECON 1850 Theory of Economic Growth
- ECON 1860 The Theory of General Equilibrium
- ECON 1870 Game Theory and Applications to Economics

Select one 1000-level course from the "data methods" group: \(2\)

- ECON 1301 Economics of Education I
- ECON 1310 Labor Economics
- ECON 1315 Health, Education, and Social Policy
- ECON 1340 Economics of Global Warming
- ECON 1355 Environmental Issues in Development Economics
- ECON 1360 Health Economics
- ECON 1375 Inequality of Opportunity in the US
- ECON 1400 The Economics of Mass Media
- ECON 1430 The Economics of Social Policy
- ECON 1480 Public Economics
- ECON 1510 Economic Development
- ECON 1530 Health, Hunger and the Household in Developing Countries
- ECON 1629 Applied Research Methods for Economists
- ECON 1640 Mathematical Econometrics II

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
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<tbody>
<tr>
<td>ECON 1660</td>
<td>Big Data</td>
</tr>
<tr>
<td>ECON 170</td>
<td>Advanced Topics in Econometrics</td>
</tr>
<tr>
<td>ECON 1680</td>
<td>Machine Learning, Text Analysis, and Economics</td>
</tr>
<tr>
<td>ECON 1825</td>
<td>Behavioral Economics and Public Policy</td>
</tr>
<tr>
<td>ECON 1830</td>
<td>Behavioral Finance</td>
</tr>
</tbody>
</table>

Total Credits: 13

1. APMA 0330 and APMA 0340 may be substituted with advisor approval, but these are no longer being offered.
2. No course may be used to simultaneously satisfy the "mathematical economics" and the "data methods" requirements.
3. Or ECON 1110 with permission. For students matriculating at Brown in Fall 2021 or later, note that if ECON 1110 is used, then one additional course from the mathematical-economics group will be required.
4. Note that ECON 1620, ECON 1960, and ECON 1970 (independent study) cannot be used for concentration credit. However, 1620 and 1960 can be used for university credit and up to two 1970s may be used for university credit.
5. Requires written approval of the Director of Undergraduate Studies in Economics. APMA 1910 is not permitted.

**Standard program for the Sc.B. degree (Mathematical Finance track):**

**Prerequisites:**
- MATH 0100: Single Variable Calculus, Part II
- MATH 0520: Linear Algebra

**Course Requirements: 16 courses: 7 Applied Math and 9 Economics**

**Applied Mathematics requirements:**

(a) APMA 0350 & APMA 0360: Applied Ordinary Differential Equations and Applied Partial Differential Equations I

Select one of the following: 1

- APMA 0160: Introduction to Scientific Computing (preferred)
- APMA 0200: Introduction to Modeling
- CSCI 0111: Computing Foundations: Data
- CSCI 0150: Introduction to Object-Oriented Programming and Computer Science
- CSCI 0170: Computer Science: An Integrated Introduction
- CSCI 0190: Accelerated Introduction to Computer Science
- APMA 1650: Statistical Inference I
- or APMA 1655: Honors Statistical Inference I

(b) Select two of the following: 2

- APMA 1160: An Introduction to Numerical Optimization
- APMA 1180: Introduction to Numerical Solution of Differential Equations
- APMA 1210: Operations Research: Deterministic Models
- APMA 1330: Applied Partial Differential Equations II
- APMA 1360: Applied Dynamical Systems
- APMA 1660: Statistical Inference II
- APMA 1670: Statistical Analysis of Time Series
- APMA 1680: Nonparametric Statistics
- APMA 1690: Computational Probability and Statistics
- APMA 1710: Information Theory

**Economics Requirements:**

- ECON 1130: Intermediate Microeconomics (Mathematical)
- ECON 1210: Intermediate Macroeconomics
- ECON 1630: Mathematical Econometrics I
- Select three 1000-level courses from the "financial economics" group: 3
- ECON 1710: Investments I
- ECON 1720: Corporate Finance
- ECON 1730: Venture Capital, Private Equity, and Entrepreneurship
- ECON 1750: Investments II
- ECON 1760: Financial Institutions
- ECON 1780: Advanced Topics in Corporate Finance
- ECON 1830: Behavioral Finance

Select two 1000-level courses from the "mathematical economics" group: 2

- ECON 1225: Advanced Macroeconomics: Monetary, Fiscal, and Stabilization Policies
- ECON 1255: Unemployment: Models and Policies
- ECON 1470: Bargaining Theory and Applications
- ECON 1490: Designing Internet Marketplaces
- ECON 1545: Topics in Macroeconomics, Development and International Economics
- ECON 1640: Mathematical Econometrics II
- ECON 1660: Big Data
- ECON 1670: Advanced Topics in Econometrics
- ECON 1680: Machine Learning, Text Analysis, and Economics
- ECON 1750: Investments II
- ECON 1805: Economics in the Laboratory
- ECON 1820: Theory of Behavioral Economics
- ECON 1850: Theory of Economic Growth
- ECON 1860: The Theory of General Equilibrium
- ECON 1870: Game Theory and Applications to Economics

Select one 1000-level course from the "data methods" group: 1

- ECON 1301: Economics of Education I
- ECON 1310: Labor Economics
- ECON 1315: Health, Education, and Social Policy
- ECON 1340: Economics of Global Warming
- ECON 1355: Environmental Issues in Development Economics
- ECON 1360: Health Economics
- ECON 1375: Inequality of Opportunity in the US
- ECON 1400: The Economics of Mass Media
- ECON 1430: The Economics of Social Policy
- ECON 1480: Public Economics
- ECON 1510: Economic Development
- ECON 1530: Health, Hunger and the Household in Developing Countries

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Undergraduate Concentrations

ECON 1629
Applied Research Methods for Economists

ECON 1640
Mathematical Econometrics II

ECON 1660
Big Data

ECON 1670
Advanced Topics in Econometrics

ECON 1680
Machine Learning, Text Analysis, and Economics

ECON 1825
Behavioral Economics and Public Policy

ECON 1830
Behavioral Finance

Total Credits 16

1 APMA 0330 and APMA 0340 may be substituted with advisor approval, but these are no longer being offered.
2 No course may be used to simultaneously satisfy the "mathematical economics" and the "data methods" requirements.
3 Or ECON 1110 with permission. For students matriculating at Brown in Fall 2021 or later, note that if ECON 1110 is used, then one additional course from the mathematical-economics group will be required.
4 Note that ECON 1620, ECON 1690, and ECON 1970 (independent study) cannot be used for concentration credit. However, 1620 and 1960 can be used for university credit and up to two 1970s may be used for university credit.
5 Requires written approval of the Director of Undergraduate Studies in Economics. APMA 1910 is not permitted.

Honors

Applied Math-Economics concentrators who wish to pursue honors must find a primary faculty thesis advisor in either Economics or Applied Math. They will be held to the Honors requirements of their advisor's department. Joint concentrators in Applied Mathematics-Economics with an Economics thesis advisor should follow the requirements published here (https://economics.brown.edu/academics/undergraduate/honors-and-capstones/thesis/), while concentrators with an Applied Math thesis advisor should follow the requirements published here (https://www.brown.edu/academics/applied-mathematics/undergraduate-program/honors/).

Professional Track

The requirements for the professional track include all those of the standard track, as well as the following:

Students must complete full-time professional experiences doing work that is related to their concentration programs, totaling 2-6 months, whereby each internship must be at least one month in duration in cases where students choose to do more than one internship experience. Such work is normally done at a company, but may also be at a university under the supervision of a faculty member. Internships that take place between the end of the fall and the start of the spring semesters cannot be used to fulfill this requirement.

On completion of each professional experience, the student must write and upload to ASK a reflective essay about the experience, to be approved by the student's concentration advisor.

• Which courses were put to use in your summer's work? Which topics, in particular, were important?
• In retrospect, which courses should you have taken before embarking on your summer experience? What are the topics from these courses that would have helped you over the summer if you had been more familiar with them?
• Are there topics you should have been familiar with in preparation for your summer experience, but are not taught at Brown? What are these topics?
• What did you learn from the experience that probably could not have been picked up from course work?
• Is the sort of work you did over the summer something you would like to continue doing once you graduate? Explain.
• Would you recommend your summer experience to other Brown students? Explain.

Archaeology and the Ancient World

The concentration in Archaeology and the Ancient World provides an opportunity to explore the multi-faceted discipline of archaeology while examining the critical early civilizations of the so-called 'Old World'—that is, the complex societies of the Mediterranean, Egypt, and the Near East. Students will learn about the art, architecture, and material culture of the ancient world, exploring things of beauty and power, as well as the world of the everyday. Concentrators will also learn "how to do" archaeology - the techniques of locating, retrieving, and analyzing ancient remains - and consider how material culture shapes our understanding of the past. Concentrators are encouraged to pursue research opportunities through summer fieldwork, museum experience, or independent study projects.

The undergraduate concentration in Archaeology and the Ancient World provides students with an opportunity to explore the multi-faceted discipline of archaeology, and encourages an interdisciplinary approach to engaging with the ancient world. While the core focus of Archaeology and the Ancient World at Brown University is archaeology and art of the ancient Mediterranean, Egypt, and the Near East, this concentration encourages students to reach beyond this geographic area, to engage with Brown's many strengths in history, epigraphy, art, ethics, engineering, religious studies, and the sciences - to name just a few. The concentration, with its three distinct but overlapping tracks, is intended to allow students flexibility in structuring their own path through this diverse field of study. All three tracks begin with the same foundation. Students are then expected to experiment with and define their own areas of specialty, establishing expertise in topics such as cultural heritage, archaeological theory, or materials analysis, or in particular regions or time periods. The concentration is also designed to allow students to build progressively upon what they have learned, moving from introductory courses to upper-level seminars.

It is expected that, in completing the requirements for this concentration, students will incorporate courses that offer new perspectives on the complex dynamics of social inequity, exclusion, and difference, and which encourage engagement with the community – both by enrolling in classes designated as Diverse Perspectives in Liberal Learning (DPLL) and through non-DPLL classes that explore similar themes. Research opportunities, through summer fieldwork, internships, museum experience, or independent study projects, are strongly encouraged.

Within this concentration, the three tracks are:

• Archaeology and the Ancient World: the most flexible of the concentration tracks, allowing students to explore any region or time period, and to develop their own areas of focus, such as museum studies, ethics and politics of the past, engineering and materials analysis, cultural heritage, or environmental studies.
• Classical Archaeology: for those interested chiefly in the 'classic' civilizations of the Mediterranean (especially Greece and Rome), as well as for those interested in both earlier (prehistoric) and later (medieval) periods in that geographic region.
• Egyptian and Near Eastern Archaeology: for those interested chiefly in the cultures of Egypt and the ancient 'Near East' – Anatolia, the Levant, Mesopotamia – from prehistoric through Islamic times.

Required Courses:
The student must take a total of 10 courses, including:

CORE REQUIREMENTS: 4

All three tracks share four Core Requirements: two introductory courses providing an overview of archaeology's two central aspects (field methodologies, and art history); and two introductory courses in the core geographical focus of the Joukowsky Institute (Classical/Mediterranean archaeology and Egyptian/Near Eastern archaeology).

One introductory course in archaeological methodology and/or scientific approaches, preferably:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARCH 0100</td>
<td>Field Archaeology in the Ancient World</td>
</tr>
</tbody>
</table>

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
or a course that addresses similar methodological/scientific topics, which must be approved by the concentration advisor.

Appropriate courses could include, for example:

**ARCH 1900** The Archaeology of College Hill

**ANTH 0500** Past Forward: Discovering Anthropological Archaeology

One introductory course in ancient art history, preferably:

**ARCH 0300** Art in Antiquity: An Introduction

or an ancient art history course approved by the concentration advisor. Appropriate courses could include, for example:

**ARCH 0150** Introduction to Egyptian Archaeology and Art

**ARCH 0520** Roman Archaeology and Art

One introductory ARCH course in Egyptian or Near Eastern archaeology, art, and/or architecture, for example:

**ARCH 0152** Egyptomania: Mystery of the Sphinx and Other Secrets of Ancient Egypt

**ARCH 0360** East Meets West: Archaeology of Anatolia

One introductory ARCH course in Classical or Mediterranean-archaeology, art, and/or architecture, for example:

**ARCH 0270** Troy Rocks! Archaeology of an Epic

**ARCH 0420** Archaeologies of the Greek Past

**TRACK REQUIREMENTS:**

In addition to the Core Requirements above, each of the three tracks requires six additional courses, which allow students to define their own areas of geographic and/or topical specialty.

**Archaeology and the Ancient World:**

One ARCH course, of any level, that focuses on a particular thematic or theoretical topic pertaining to archaeology, for example:

**ARCH 0315** Heritages in and Out of Context: Museum and Archaeological Heritage

**ARCH 1800** Contemporary Issues in Archaeological Theory

One ARCH course, of any level, that focuses on a part of the world OTHER than Mediterranean, Egyptian, or Near Eastern, for example:

**ANTH 0066U** An Archaeology of Native American Art

**ARCH 0160** Buried History, Hidden Wonders: Discovering East Asian Archaeology

Two additional ARCH courses, on any aspect of archaeology and art, at the 1000 level (or above). Students are encouraged to use these upper-level courses to define a particular core specialty or track, such as a focus on archaeological theory, museum studies, archaeological ethics, materials analysis, cultural heritage, or climate change, for example:

**ARCH 1550** Who Owns the Classical Past?

**ANTH 1720** The Human Skeleton

Two non-ARCH courses which EITHER relate to the study of the ancient world OR to the discipline of archaeology. Outside courses are chosen with the approval of the Concentration Advisor from appropriate 1000 level (or above) offerings in other departments such as, but not limited to: Anthropology, Classics, Egyptology and Assyriology, Environmental Studies, Geological Sciences, History, History of Art and Architecture, Religious Studies. One term of language study, in any relevant (usually ancient) language, may also be counted toward this requirement.

**Classical Archaeology:**

One course in ancient Greek or Roman history, for example:

**CLAS 1210** Mediterranean Culture Wars: Archaic Greek History, c. 1200 to 479 BC

**CLAS 1220** The Fall of Empires and Rise of Kings: Greek History 478 to 323 BC

**CLAS 1310** Roman History I: The Rise and Fall of an Imperial Republic

**CLAS 1320** Roman History II: The Roman Empire and Its Impact

One course in either Ancient Greek or Latin, at a level beyond the first year of study, for example:

**GRET 0300/0400** Introduction to Greek Literature

**LATN 0300/0400** Introduction to Latin Literature

Two courses in Mediterranean (prehistoric, Greek, Roman, medieval) archaeology and art, at the 1000 level (or above).

One ARCH course, of any level, that focuses on a part of the world OTHER than Mediterranean, Egyptian, or Near Eastern OR focuses on a particular thematic topic pertaining to archaeology, for example:

**ARCH 1490** The Archaeology of Central Asia: Alexander in Afghanistan, and Buddhas in Bactria

**ARCH 1540** Cultural Heritage: The Players and Politics of Protecting the Past

One non-ARCH course which EITHER relates to the study of the ancient world OR to the discipline of archaeology. Outside courses are chosen with the approval of the Concentration Advisor from appropriate 1000 level (or above) offerings in other departments such as, but not limited to: Anthropology, Classics, Egyptology and Assyriology, Environmental Studies, Geological Sciences, History, History of Art and Architecture, Religious Studies.

**Egyptian and Near Eastern Archaeology:**

Two courses in Egyptian and Near Eastern archaeology and art at the 1000 level (or above).

Two terms of course work in a pertinent ancient language (such as Akkadian, Coptic, Classical Hebrew, Middle Egyptian).

One ARCH course, of any level, that focuses on a part of the world OTHER than Mediterranean, Egyptian, or Near Eastern OR focuses on a particular thematic topic pertaining to archaeology, for example:

**ARCH 0335** Archaeology of the Andes

**ARCH 1170** Community Archaeology in Providence and Beyond

One non-ARCH course which EITHER relates to the study of the ancient world OR to the discipline of archaeology. Outside courses are chosen with the approval of the Concentration Advisor from appropriate 1000 level (or above) offerings in other departments such as, but not limited to: Anthropology, Classics, Egyptology and Assyriology, Environmental Studies, Geological Sciences, History, History of Art and Architecture, Religious Studies.

**TOTAL (including Core and Track Requirements):** 10

1. All formally cross-listed courses, regardless of home department, can be considered ARCH courses and can fulfill the relevant concentration requirement(s). There is no limit on the number of cross-listed courses that can count toward the completion of a concentration.

2. Students who are doing a double concentration are allowed up to two courses that are also counted toward (i.e., overlap with) their second concentration to fulfill Archaeology concentration requirements.

**Fieldwork, Study Abroad, and Capstone Experiences**

Students are strongly encouraged to consider participating in a field project, most typically after sophomore or junior year. The Joukowsky Institute's Assistant Director and other faculty members can provide suggestions about how to explore and fund possible field projects. For each of the tracks, a capstone experience may be substituted for one of these required courses. With the permission of the Assistant Director or the Director of Undergraduate Studies, up to three successfully completed

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
courses, from relevant and accredited study abroad programs, may be counted towards the concentration requirements. Field school courses that provide formal university transfer credit, and official transcripts, may also be used to fulfill concentration requirements.

Honors Concentrations

An Honors concentration in any of these tracks requires the successful completion of all the standard requirements with the addition of an Honors thesis. For the preparation of this thesis, students will ordinarily enroll in ARCH 1970 during the first semester of the senior year and ARCH 1990 during the second semester of the senior year (these courses may be taken S/NC, nor may they be used to satisfy the standard requirements of the concentration). In order to qualify for honors, students must have received more A’s than B’s in concentration courses completed.

Honors concentrations are recommended for students considering graduate work in the discipline of archaeology. Any student interested in a course of graduate study should speak to the Joukowsky Institute’s Assistant Director and faculty members as soon as possible, not least for advice about additional forms of preparation. Graduate work in the archaeology of the ancient world, for example, requires knowledge of appropriate ancient, as well as modern, languages. Students should start work on acquiring these skills as early as possible.

The Honors Thesis

The Honors thesis is an extended essay, usually of between 40 and 60 pages in length, researched and written under the supervision of a faculty advisor and second reader during the senior year (during which the student must be enrolled in ARCH 1970 in the Fall and ARCH 1990 in the Spring semester).

Where appropriate, the advisor or the reader, but not both of them, may be in a unit other than the Joukowsky Institute for Archaeology and the Ancient World. The specific topic and approach of the thesis are worked out between the student and the thesis advisor, with assistance from the student’s second reader. This process should begin in the latter part of the student’s junior year.

A preliminary title and one page outline of the proposed Honors thesis is due to the Joukowsky Institute’s Assistant Director and the thesis advisor by May 15th of the junior year.

The deadlines for thesis drafts, and for final thesis submission, will be agreed between the student and the faculty advisors. It is expected that students will have submitted at least one full chapter to their primary advisor by the end of the student’s penultimate semester. The deadline for final thesis submission typically should be on or before April 15th, and must be no later than the first day of Reading Period in the final semester of senior year. Both a bound and an electronic version of the final thesis must be submitted to the Joukowsky Institute by May 1, via email to joukowsky_institute@brown.edu.

The completed thesis will be evaluated by the advisor and second reader, who will discuss its strengths and weaknesses in a joint meeting with the student; they will then make a recommendation concerning Honors, and also agree a grade for ARCH 1990.

The Honors concentrators will be asked to make a short public presentation about their work; this event will be organized by the Joukowsky Institute’s Assistant Director, and usually occurs during or shortly after Reading Period.

Evaluation

The Director of Undergraduate Studies will review the student’s overall record, in addition to the thesis evaluations. If all requirements have been successfully met, the recommendation will be made that the student graduates with Honors.

Architecture

The Architecture concentration introduces students to a broad understanding of concepts and methods for the planning and design of buildings and urban environments. It connects architectural education firmly to the humanities and provides a greater awareness of historical, global, environmental, social and economic issues in the built environment. This approach to the education of architects and urban planners aims to provide them with the tools needed in today’s fractured urban society. Apart from training careful observation, critical analysis and problem solving, students will acquire skills in sketching, drafting, model-making, and digital rendering. By combining a carefully selected range of classes in architectural design, the humanities, engineering and technology, and urban life and theory, students will acquire necessary proficiency for pursuing a graduate degree in architecture after Brown.

Summary of Concentration Requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Credits</td>
<td>12</td>
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</table>

1. Introduction to Design Studio                                           1
2. Practice Courses                                                         2
3. Double-Credit Design Studio                                              2
4. History of Art and Architecture lecture courses bearing the A designation 4
1. Pathway Elective in Sciences                                             1
1. Pathway Elective on Social Sciences / Humanities                         1
1. Capstone Course                                                          1

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<tr>
<td>HIAA 0100</td>
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<tr>
<td>HIAA 0130</td>
<td>Architectural Projection</td>
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</tr>
<tr>
<td>HIAA 0140</td>
<td>Structural and Architectural Analysis</td>
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</tr>
<tr>
<td>HIAA 0150</td>
<td>Intermediate Architectural Design Studio</td>
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<tr>
<td>or HIAA 0190</td>
<td>Advanced Design Studio</td>
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<tr>
<td>HIAA 0100</td>
<td>Introduction to Architectural Design Studio</td>
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<table>
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<tr>
<th>Thesis Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 History of Art and Architecture lecture courses bearing the A designation</td>
<td>4</td>
</tr>
</tbody>
</table>

Temporal Periods:

**Ancient/Medieval:**
- HIAA 0022: The Art of Enlightenment
- HIAA 0032: Art and Architecture of the Roman Empire
- HIAA 0322: The Arts of Religion and Ritual in the Ancient World

**Early Modern:**
- HIAA 0062: Dutch and Flemish Art: Visual Culture of the Netherlands in the Seventeenth Century
- HIAA 0550: Painters, Builders, and Bankers in Early Modern Italy
- HIAA 0560: Constructing the Eternal City: Popes and Pilgrims in Early Modern Rome
- HIAA 0630: Cultural History of the Netherlands in a Golden Age and a Global Age
- HIAA 0660: Giotto to Watteau: Introduction to the Art of Europe from Renaissance to French Revolution

**Modern/Contemporary:**
- HIAA 0070: Introduction to American Art: The 19th Century
- HIAA 0072: Introduction to American Art: The Twentieth Century
- HIAA 0075: Introduction to the History of Art: Modern Photography
- HIAA 0077: Revolutions, Illusions, Impressions: A History of Nineteenth-Century Art

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
During the second semester of the junior year all concentrators will be invited to apply for admission to the Honors Program in Architecture. The honors program is an opportunity for you to mobilize what you have learned to make an original research contribution to the field. There are two pathways to honors in the Architecture concentration: thesis and project-based.

Those pursuing the thesis option research and write a historical or theoretical essay on a topic of their choice over the course of their senior year. The thesis should be no more than 35 pages in length, plus theoretical essay on a topic of their choice over the course of their senior year. The thesis should be no more than 35 pages in length, plus bibliography and illustrations.

Those pursuing the project option further develop a design project that they initiated in an Advanced Studio either in their junior year or in the first semester of their senior year. They devote a minimum of one additional semester further developing their project in regular consultation with a faculty advisor. (This can mean building an additional, more elaborate model, creating more renderings, refining the concept, and so forth.)

During both fall and spring semesters you will participate in the monthly meetings of the Honors cohort, in which honors students in both HIAA concentrations share their work-in-progress with each other and with the faculty member who supervises the seminar. (These monthly meetings, usually three per semester, are mandatory but do not require a course registration.) You will also enroll in your advisor’s section of a seminar course. You might work on an archaeological excavation. Beyond these opportunities, the Department is open to other approaches. You should work with a faculty sponsor and with your concentration advisor to decide what will work best for you.

Self-Assessment

All concentrators are required to write an essay when they file for the concentration that lays out what they expect to gain from the course of study they propose. All second-semester seniors will be required to write a final essay that takes measure of what they have learned from the concentration, including their capstone and other experiences relating to their study of architecture. The self-assessment should be submitted through ASK with a revised list of courses actually taken at least one month prior to graduation.

Honors

During both fall and spring semesters you will participate in the monthly meetings of the Honors cohort, in which honors students in both HIAA concentrations share their work-in-progress with each other and with the faculty member who supervises the seminar. (These monthly meetings, usually three per semester, are mandatory but do not require a course registration.) You will also enroll in your advisor’s section of HIAA 1990 (Honors Thesis) in both semesters, for thesis students, or at least one semester, for project-based honors.

Theses and projects will be due to the advisor and second reader by March 1 of the Spring semester or by November 1 of the Fall semester if you plan on graduating in December. Comments will be returned to the students for final corrections at that point. There will be a public presentation of Honors work at the end of the Spring semester.

Students wishing to pursue honors should have produced consistently excellent work and maintained a high level of achievement (i.e. a majority of “A” or “S with distinction” grades) in all concentration courses. While acceptance into the Honors program depends on the persuasiveness of the proposal as well as the number of students applying, students may...

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
refine their proposals by speaking in advance with potential advisors. No honors student may take more than four courses either semester of their senior year—with the honors seminar being considered one of the four courses. Students interested in honors who are expecting to graduate in the middle of the year should contact the concentration advisor no later than the beginning of their junior year.

Astronomy

Along with Greek, Latin, and Mathematics, Astronomy counts as one of the oldest continuously taught subjects in the Brown curriculum. It is the study of the properties of stars, galaxies, and the Universe, and as such combines elements from the disciplines of both Physics and Planetary Geology. Students pursuing this concentration complete introductory coursework in classical mechanics, relativity, and astrophysics, along with mathematics and electromagnetism. They go on to complete courses in stellar and extragalactic astrophysics as well as cosmology. Facilities available to concentrators include the historic Ladd Observatory.

Standard concentration for the A.B. degree

Eleven or twelve courses are required (depending on the satisfaction of prerequisites).

Prerequisites

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 0070</td>
<td>Analytical Mechanics</td>
<td>1</td>
</tr>
<tr>
<td>PHYS 0160</td>
<td>Introduction to Relativity, Waves and Quantum Physics</td>
<td>1</td>
</tr>
<tr>
<td>PHYS 0270</td>
<td>Astronomy and Astrophysics</td>
<td>1</td>
</tr>
<tr>
<td>Select one of the following Series:</td>
<td></td>
<td>1-2</td>
</tr>
<tr>
<td>MATH 0170 &amp; MATH 0180</td>
<td>Single Variable Calculus, Part II (Accelerated) and Multivariable Calculus</td>
<td></td>
</tr>
<tr>
<td>MATH 0190 &amp; MATH 0200</td>
<td>Single Variable Calculus, Part II (Physics/Engineering) and Multivariable Calculus (Physics/Engineering)</td>
<td></td>
</tr>
<tr>
<td>MATH 0350</td>
<td>Multivariable Calculus With Theory (or equivalent)</td>
<td></td>
</tr>
<tr>
<td>PHYS 0470</td>
<td>Electricity and Magnetism</td>
<td>1</td>
</tr>
</tbody>
</table>

Program

Select one of the following mathematics courses: | 1 |
| MATH 0520 | Linear Algebra | |
| MATH 0540 | Linear Algebra With Theory | |
| PHYS 0720 | Methods of Mathematical Physics | |
| APMA 0330 | Methods of Applied Mathematics I | |
| APMA 0340 | Methods of Applied Mathematics II | |

Select two of the following astrophysics courses: | 2 |
| PHYS 1100 | General Relativity | |
| PHYS 1250 | Stellar Structure and the Interstellar Medium | |
| PHYS 1270 | Extragalactic Astronomy and High-Energy Astrophysics | |
| PHYS 1280 | Introduction to Cosmology | |

Three additional 1000- or 2000-level courses in physics or a related field, suggestions: | 3 |
| APMA 1670 | Statistical Analysis of Time Series | |
| EEPS 0810 | Planetary Geology | |
| EEPS 1710 | Remote Sensing of Earth and Planetary Surfaces | |
| EEPS 1810 | Physics of Planetary Evolution | |
| ENGN 1860 | Advanced Fluid Mechanics | |
| MATH 1060 | Differential Geometry | |
| PHYS 0500 | Advanced Classical Mechanics | |
| PHYS 0560 | Experiments in Modern Physics | |
| PHYS 1410 | Quantum Mechanics A | |
| PHYS 1510 | Advanced Electromagnetic Theory | |
| PHYS 1530 | Thermodynamics and Statistical Mechanics | |
| PHYS 1560 | Modern Physics Laboratory | |

Total Credits: 11-12

1 PHYS 0050 and PHYS 0060 can be taken in lieu of PHYS 0160

Behavioral Decision Sciences

Leading to a Bachelor of Arts, the study of decision making at Brown covers descriptive questions like how people, institutions, and nations make judgments and decisions; normative questions about rationality, such as what constitutes the best judgments and decisions; and prescriptive questions, such as how the process of decision making can be improved to make actual decisions closer to optimal ones. By virtue of its broad interdisciplinary nature, the study of decision making covers work found in a variety of more traditional disciplines including psychology, cognitive science, economics, philosophy, computer science, and neuroscience. Professor Steven Sloman (steven_sloman@brown.edu?subject=Behavioral%20Decision%20Sciences) is the concentration advisor. Upon declaring, concentrators are also encouraged to speak with the appropriate area specialist from among those listed here (https://www.brown.edu/academics/cognitive-linguistic-psychological-sciences/behavioral-decision-sciences/).

Standard Program for the AB Degree

CLPS Classes:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLPS 0220</td>
<td>Making Decisions</td>
<td>1</td>
</tr>
<tr>
<td>Choose one of the following:</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>CLPS 0400</td>
<td>Cognitive Neuroscience</td>
<td></td>
</tr>
<tr>
<td>CLPS 0200</td>
<td>Human Cognition</td>
<td></td>
</tr>
<tr>
<td>CLPS 0700</td>
<td>Social Psychology</td>
<td></td>
</tr>
</tbody>
</table>

Choose two of the following: | 2 |
| CLPS 1280B | Special Topics in Cognition: Collective Cognition | |
| CLPS 1470 | Mechanisms of Motivated Decision Making | |

CLPS 1495 | Affective Neuroscience | |
CLPS 1560 | Visually-Guided Action and Cognitive Processes | |
CLPS 1730 | Psychology in Business and Economics | |
CLPS 1750 | Blame and Punishment | |
CLPS 1760 | The Moral Brain | |
CLPS 0710 | The Psychology and Philosophy of Happiness | |

Distribution Requirements:

Select one Introductory Course from the following: | 1 |
| ECON 0110 | Principles of Economics | |
| or CSCI 0111 | Computing Foundations: Data | |
| or CSCI 0150 | Introduction to Object-Oriented Programming and Computer Science | |
| or CSCI 0170 | Computer Science: An Integrated Introduction | |
| or CSCI 0180 | Computer Science: An Integrated Introduction | |
| or CSCI 0190 | Accelerated Introduction to Computer Science | |

Select Two Advanced Courses From: | 2 |
<p>| CSCI 1410 | Artificial Intelligence | |
| CSCI 1420 | Machine Learning | |
| ECON 1090 | Introduction to Game Theory | |
| ECON 1110 | Intermediate Microeconomics | |
| or ECON 1130 | Intermediate Microeconomics (Mathematical) | |</p>
<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>ECON 1170</td>
<td>Welfare Economics and Social Choice Theory</td>
</tr>
<tr>
<td>ECON 1200</td>
<td>History of Economic Thought</td>
</tr>
<tr>
<td>ECON 1805</td>
<td>Economics in the Laboratory</td>
</tr>
<tr>
<td>ECON 1820</td>
<td>Theory of Behavioral Economics</td>
</tr>
<tr>
<td>ECON 1870</td>
<td>Game Theory and Applications to Economics</td>
</tr>
<tr>
<td>PHIL 1610</td>
<td>Decision Theory: Foundations and Applications</td>
</tr>
<tr>
<td>SOC 1311</td>
<td>Micro-Organizational Theory: Social Behavior in Organizations</td>
</tr>
<tr>
<td>SOC 1315</td>
<td>Macro-Organizational Theory: Organizations in Social Context</td>
</tr>
</tbody>
</table>

**Methods Classes:**

Choose One From the Following:  
1. APMA 0650 Essential Statistics  
2. APMA 1650 Statistical Inference I  
3. CLPS 0900 Statistical Methods  
4. CSCI 0100 Data Fluency for All  
5. CSCI 1450 Advanced Introduction to Probability for Computing and Data Science  

ECON 1620 Introduction to Econometrics  
Plus One of the Following:  
1. CLPS 1791 Laboratory in Social Cognition  
2. CSCI 0150 Introduction to Object-Oriented Programming and Computer Science  
3. CSCI 0170 Computer Science: An Integrated Introduction  
4. ECON 1629 Applied Research Methods for Economists  
5. ECON 1630 Mathematical Econometrics I  
6. ECON 1660 Big Data  
7. PHIL 0640 Logic  
8. SOC 1120 Market and Social Surveys  
9. SOC 1260 Market Research in Public and Private Sectors  

**Electives:**  
3. Students will choose three additional courses in consultation with a concentration advisor that will constitute an integrated specialization in some area of decision science. Any advanced course taught at Brown is eligible. Such courses might include, but are not limited to:  

- **Psychology and Cognitive Science:**  
  - CLPS 1292 Introduction to Programming for the Mind, Brain and Behavior  
  - CLPS 1370 Pragmatics  
  - CLPS 1970 Directed Reading in Cognitive, Linguistic and Psychological Sciences  

- **Economics:**  
  - ECON 1820 Theory of Behavioral Economics  
  - ECON 1870 Game Theory and Applications to Economics  

- **Applied Mathematics:**  
  - APMA 1690 Computational Probability and Statistics  
  - APMA 2640 Theory of Probability II  
  - APMA 2821V Neural Dynamics: Theory and Modeling  

- **Philosophy:**  
  - PHIL 1430 Moral Theories  
  - PHIL 1705 Epistemology  

- **Computer Science:**  
  - CSCI 1430 Computer Vision  
  - CSCI 1460 Computational Linguistics  

**Honors**  

The Honors Program in BDS gives undergraduates a special opportunity to carry out a research project under the direction of a faculty member that they have developed a relationship with. The program also provides the opportunity for senior concentrators to receive their undergraduate degree with Honors. Participation in the program allows students to develop an understanding of research and acquire research skills and background. Candidates for Honors in BDS must meet all of the requirements of the BDS concentration as described above. Candidates submit their application for the program at the beginning of semester 7.  

**Biochemistry & Molecular Biology**  

How does life work at the molecular level? This question is at the core of the concentration program Biochemistry and Molecular Biology. In earlier years of this discipline, the focus was on structure and function of proteins, nucleic acids, lipids, carbohydrates and small molecules such as vitamins. Today the logical approach and tools of biochemical science are being expanded to new areas in neuroscience, developmental biology, immunology, pharmacology and synthetic biology (the design of analogs of biological systems). Training in biochemistry begins with a foundation in mathematics, physics, chemistry and biology. Some courses offered in other departments, including engineering, geology and computer science, are also useful. A key component of this program is the year of hands-on research carried out in collaboration with a faculty member here at Brown. Faculty sponsors are drawn from both the Chemistry Department and the Division of Biology and Medicine, and include basic science and clinical faculty.  

**Standard program for the Sc.B. degree**  

Students must take twenty courses in biology, chemistry, mathematics, and physics, including the following core requirements, some of these may be fulfilled with AP credits.  

Three courses in mathematics including two courses in mathematics, math, or computer science  

Options for statistics courses include:  

1. APMA 0650 Essential Statistics  
2. APMA 1650 Statistical Inference I  
3. BIOL 0495 Statistical Analysis of Biological Data  

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
### Undergraduate Concentrations

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<thead>
<tr>
<th>Course Code</th>
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</thead>
<tbody>
<tr>
<td>CLPS 0900</td>
<td>Statistical Methods</td>
</tr>
<tr>
<td>PHP 1501</td>
<td>Essentials of Data Analysis</td>
</tr>
<tr>
<td>PHYS 0030</td>
<td>Basic Physics A</td>
</tr>
<tr>
<td>or PHYS 0050</td>
<td>Foundations of Mechanics</td>
</tr>
<tr>
<td>or ENGN 0030</td>
<td>Introduction to Engineering</td>
</tr>
<tr>
<td>PHYS 0040</td>
<td>Basic Physics B</td>
</tr>
<tr>
<td>or PHYS 0060</td>
<td>Foundations of Electromagnetism and Modern Physics</td>
</tr>
<tr>
<td>or ENGN 0040</td>
<td>Dynamics and Vibrations</td>
</tr>
<tr>
<td>CHEM 0330</td>
<td>Equilibrium, Rate, and Structure</td>
</tr>
<tr>
<td>CHEM 0350/0360</td>
<td>Organic Chemistry I</td>
</tr>
<tr>
<td>CHEM 0400</td>
<td>Biophysical and Bioinorganic Chemistry</td>
</tr>
<tr>
<td>BIOL 0280</td>
<td>Biochemistry</td>
</tr>
<tr>
<td>BIOL 0285</td>
<td>Inquiry in Biochemistry: From Gene to Protein Function</td>
</tr>
<tr>
<td>BIOL 1270</td>
<td>Advanced Biochemistry</td>
</tr>
<tr>
<td>or CHEM 1230</td>
<td>Chemical Biology</td>
</tr>
<tr>
<td>or CHEM 1240</td>
<td>Biochemistry</td>
</tr>
<tr>
<td>CHEM 0980S</td>
<td>Undergraduate Research - Writing Designated and Mandatory S/NC</td>
</tr>
<tr>
<td>CHEM 0981</td>
<td>Undergraduate Research - Writing Designated</td>
</tr>
<tr>
<td>BIOL 1950</td>
<td>Directed Research/Independent Study</td>
</tr>
<tr>
<td>BIOL 1960</td>
<td>Directed Research/Independent Study</td>
</tr>
<tr>
<td>CHEM 0980</td>
<td>Undergraduate Research</td>
</tr>
<tr>
<td>NEUR 0010</td>
<td>The Brain: An Introduction to Neuroscience</td>
</tr>
<tr>
<td>NEUR 1020</td>
<td>Principles of Neurobiology</td>
</tr>
<tr>
<td>NEUR 1030</td>
<td>Neural Systems</td>
</tr>
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</table>

**For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).**


**Biology**

The Biology concentration invites students to study, in depth and in breadth, the science of life and living matter. Whether pursuing the Bachelor of Arts (A.B.) or Science (Sc.B.) in biology, students can expect to learn broadly in the discipline through a selection of courses in three areas: cell and molecular biology, structure and function, and organismal biology. In addition, students pursuing the Sc.B. complete a thematic track through which they gain an in-depth understanding of a particular subfield such as, Immunopathology, Ecology and Evolutionary Biology, Physiology/Biotechnology, Cell and Molecular Biology, Physical Sciences. The concentration also emphasizes practical skills and experimental design. Concentrators are required to take at least 3 courses with a laboratory or fieldwork component. Within all of these requirements, students have a high degree of flexibility and choice. Broad research opportunities are also available across several departments within the basic sciences as well.

**Standard program for the A.B. Biology**

The concentration program for the A.B. in Biology consists of four prerequisite courses in math, chemistry, and a statistics course as well as ten courses in biological sciences, including at least one course in each of the following three areas: Area 1: Cell/Molecular Biology, Area 2: Structure/Function, and Area 3: Organismal Biology.


**Prerequisites:**  
CHEM 0330 Equilibrium, Rate, and Structure  
CHEM 0350 Organic Chemistry I

**Honors Requirements for Biochemistry**

All ScB Biochemistry concentrators are candidates for Honors; no separate application is necessary.

The requirements for Honors in Biochemistry are:

* Students must have a majority of either As or S with distinction grades in concentration courses.
* Two semesters of Independent Study (CHEM 0980, CHEM 0980S, CHEM 0981, BIOL 1500, or BIOL 1600). Guidelines and requirements associated with Independent Study are in the Undergraduate Concentration Handbook which can be found at the department website (http://www.brown.edu/academics/chemistry/undergraduate/).
* A Thesis in a form approved by the research advisor, and recommended by the research advisor. Additional information about thesis guidelines will be provided by the Concentration Advisor in the first half of the fall semester.

**Area 3 (Organismal Biology)**


**Prerequisites:**  
CHEM 0330 Equilibrium, Rate, and Structure  
CHEM 0350 Organic Chemistry I

**Total Credits**

1 Note that the mathematics and physics requirements may be satisfied by Advanced Placement credit.
2 or any NEUR course in Cell, Genetics, Molecular Biology, or Development.

**Area 1 (Cell/Molecular Biology)**

<table>
<thead>
<tr>
<th>Course</th>
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<td>BIOL 0210</td>
<td>Diversity of Life</td>
</tr>
<tr>
<td>BIOL 0380/BIOL 1010</td>
<td>The Ecology and Evolution of Infectious Disease</td>
</tr>
<tr>
<td>BIOL 0410</td>
<td>Invertebrate Zoology</td>
</tr>
<tr>
<td>BIOL 0420</td>
<td>Principles of Ecology</td>
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<tr>
<td>BIOL 0430</td>
<td>The Evolution of Plant Diversity</td>
</tr>
<tr>
<td>BIOL 0450</td>
<td>Evolutionary Behavioral Ecology</td>
</tr>
<tr>
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<td>Terrestrial Biogeochernistry and the Functioning of Ecosystems</td>
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<tr>
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**Area 2 (Structure/Function)**

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<td>BIOL 0400</td>
<td>Biological Design: Structural Architecture of Organisms</td>
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<td>BIOL 0440</td>
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**Honors Requirements for Biochemistry**

All ScB Biochemistry concentrators are candidates for Honors; no separate application is necessary.

The requirements for Honors in Biochemistry are:

* Students must have a majority of either As or S with distinction grades in concentration courses.
* Two semesters of Independent Study (CHEM 0980, CHEM 0980S, CHEM 0981, BIOL 1500, or BIOL 1600). Guidelines and requirements associated with Independent Study are in the Undergraduate Concentration Handbook which can be found at the department website (http://www.brown.edu/academics/chemistry/undergraduate/).
* A Thesis in a form approved by the research advisor, and recommended by the research advisor. Additional information about thesis guidelines will be provided by the Concentration Advisor in the first half of the fall semester.

**Total Credits**

1 Note that the mathematics and physics requirements may be satisfied by Advanced Placement credit.
2 or any NEUR course in Cell, Genetics, Molecular Biology, or Development.

**Area 1 (Cell/Molecular Biology)**

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**Area 3 (Organismal Biology)**

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For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Six additional courses chosen from BIOL and/or NEUR offerings for concentrators. The Core may include up to two related sciences, with advisor approval. The Core must also include a Senior Capstone.

**SENIOR CAPSTONE:** "Only applies to students who have declared in Fall 2019 or later." To be fulfilled via ONE of the following:

1. One of the following approved courses: BIOL 1100, 1250, 1515, 1555, 1565, 1600, 1820, 1970A.
2. One semester of independent research/independent study (BIOL 1950 or BIOL 1960).

Please visit the BUE webpage for more information.

**Total Credits: 10**

1. AP scores of 4 or 5 may substitute Math courses.
2. Biology courses for concentration credit include those numbered between 0100 - 2999.
3. At least two biology and/or neuroscience courses must be at the advanced level (between 1000-2999). Senior Capstone can be used towards one advanced requirement or one lab requirement. At least three of the Biology and/or Neuroscience courses must include laboratory or fieldwork. BIOL 1950/BIOL 1960. (Directed Research) may be included, but is not required. If a lab project, a semester can count for one of the three lab course requirements.
4. No substitutions per above Area list. If a course is listed in more than one area, it may be used to fulfill one area only; the other area must be fulfilled by a different course.

**Honors:** Honors in Biology requires a thesis and presentation based on a research project (conducted via BIOL 1950/BIOL 1960), and quality grades in the concentration. Guidelines and information on faculty research are available in the Office of Biology Undergraduate Education or found at [http://www.brown.edu/academics/biology/undergraduate-education/](http://www.brown.edu/academics/biology/undergraduate-education/).

**Standard Program for the Sc.B. Biology**

The concentration program for the Sc.B. in Biology consists of seven prerequisite courses in math, chemistry, and physics as well as thirteen to fourteen courses in biological sciences, including courses in each of the following three areas: Area 1: Cell/Molecular Biology, Area 2: Structure/Function, and Area 3: Organismic Biology, and the three-course Track. The biological sciences requirement also requires research (BIOL 1950/BIOL 1960), which should reflect the advanced cluster.

Students pursuing a ScB in Biology have the option to substitute a course for CHEM 0360 (Organic Chemistry) in their background core. For students pursuing the Marine Biology track, an upper level course in Geological Sciences may replace CHEM 0360. For students pursuing all other tracks, BIOL 0280 (Introductory Biochemistry) may serve as the replacement course. Please note that approval from the concentration advisor is required for these background course substitutions. If the student has already declared, then a revised concentration plan must be submitted and approved via the ASK system. If BIOL 0280 is used as a substitute for CHEM 0360, it cannot be counted as a core course or as an Area 1 course. Students planning to apply to medical or graduate school should seek additional advising (such as from the Health Careers Office) in crafting their course plan.


**Prerequisites:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 0090</td>
<td>Single Variable Calculus, Part I (or placement, MATH 0050/MATH 0060 may be substituted for MATH 0090)</td>
</tr>
</tbody>
</table>

One of the following:

**Core Courses:**

<table>
<thead>
<tr>
<th>Area 1 (Cell/Molecular Biology)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 0280</td>
</tr>
<tr>
<td>BIOL 0470</td>
</tr>
<tr>
<td>BIOL 0500</td>
</tr>
<tr>
<td>BIOL 0510</td>
</tr>
<tr>
<td>BIOL 0530</td>
</tr>
<tr>
<td>BIOL 1050</td>
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<tr>
<td>BIOL 1310</td>
</tr>
<tr>
<td>BIOL 1515</td>
</tr>
<tr>
<td>BIOL 1810</td>
</tr>
<tr>
<td>BIOL 1820</td>
</tr>
<tr>
<td>BIOL 1865</td>
</tr>
<tr>
<td>NEUR 1020</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Area 2 (Structure/Function)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 0400</td>
</tr>
<tr>
<td>BIOL 0410</td>
</tr>
<tr>
<td>BIOL 0440</td>
</tr>
<tr>
<td>BIOL 0800</td>
</tr>
<tr>
<td>BIOL 1120</td>
</tr>
<tr>
<td>BIOL 1155</td>
</tr>
<tr>
<td>BIOL 1310</td>
</tr>
<tr>
<td>BIOL 1330</td>
</tr>
<tr>
<td>BIOL 1800</td>
</tr>
<tr>
<td>BIOL 1820</td>
</tr>
<tr>
<td>BIOL 1865</td>
</tr>
<tr>
<td>BIOL 1880</td>
</tr>
<tr>
<td>NEUR 0010</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Area 3 (Organismic Biology)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 0210</td>
</tr>
<tr>
<td>BIOL 0380</td>
</tr>
<tr>
<td>BIOL 0410</td>
</tr>
<tr>
<td>BIOL 0420</td>
</tr>
<tr>
<td>BIOL 0430</td>
</tr>
<tr>
<td>BIOL 0450</td>
</tr>
<tr>
<td>BIOL 0480</td>
</tr>
</tbody>
</table>

**Each of the following:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 0330</td>
<td>Equilibrium, Rate, and Structure (or IB credit)</td>
</tr>
<tr>
<td>CHEM 0350</td>
<td>Organic Chemistry I</td>
</tr>
<tr>
<td>CHEM 0360</td>
<td>Organic Chemistry II</td>
</tr>
<tr>
<td>BIOL 0280</td>
<td>Biochemistry</td>
</tr>
<tr>
<td>PHYS 0030</td>
<td>Basic Physics A (or equivalent. PHYS 0050 PHYS 0070, or ENGN 0030 may be substituted for PHYS 0030.)</td>
</tr>
<tr>
<td>PHYS 0040</td>
<td>Basic Physics B (or equivalent. PHYS 0060 or ENGN 0040 may be substituted for PHYS 0040.)</td>
</tr>
</tbody>
</table>

For up-to-date course information please visit Courses@Brown.edu ([https://cab.brown.edu](https://cab.brown.edu)).
Six additional courses chosen from BIOL and/or NEUR offerings for concentrations. The Core may include up to two related sciences, with advisor approval. The Core must also include research. *RESEARCH:*

The two semester research requirement may be satisfied by any two of the opportunities listed below. Students may find the following resources useful in planning for research: the annual BUE-PLME Finding, Securing and Succeeding in Research workshop, the BUE Research webpage, and the Sheridan Center’s Undergraduate Research & Experiential Opportunities webpage. Following conversation and agreement with the advisor, students articulate the research plan in the ASK declaration (in the designated text box) which is submitted for review and approval by the advisor.

Choose two:

- **BIOL 1950** Directed Research/Independent Study
- **BIOL 1960** Directed Research/Independent Study
- **NEUR 1970** Independent Study

Independent study course in a related discipline (i.e., STEM disciplines, ENVS, PHP, etc.) if the project is relevant to the student’s learning goals and interests in the concentration.

The following COEX courses: BIOL 0285, BIOL 0440, BIOL 0600, BIOL 0940G, BIOL 1515, BIOL 1555; NEUR 1630, CLPS 1195. New COEX courses will be considered as they are developed and offered at Brown, and as relevant to the concentration.

A summer research experience equivalent in scope and scale to work the student would pursue in a Biology independent study course. Examples include UTRAs, LINK awards, approved research programs at other institutions, etc. These experiences do not count as a course in the 10 course core requirement, but they can be used to satisfy the one semester of the research requirement. Advisors will work with students to review these experiences - drawing on a range of potential materials including a written summary of the experience, formal work plans, materials produced (i.e. presentations/papers), and in some cases a letter from the supporting advisor.

Other equivalent opportunities not listed - with approval from the concentration advisor and Dean Smith

**TRACK:**

The advanced thematic track consists of three additional biological sciences courses (not including BIOL 1950/1960 research) that form a Track. Tracks include: Immunology/Pathobiology; Ecology, Evolution and Organismal Biology; Physiology and Biotechnology; Neurobiology; Physical Sciences; Cell and Molecular Biology; Biomedical Informatics. At least two track courses, and preferably all three, must be above 1000-level. Track courses should form a cohesive grouping approved by the concentration advisor.

**Biomedical Informatics - BIOL 1565 is required for this track along with 2 additional courses from the following:**

- **BIOL 1555** Methods in Informatics and Data Science for Health
- **BIOL 1575** Evaluation of Health Information Systems
- **BIOL 1595** Artificial Intelligence in Biomedicine

**Cell and Molecular Biology**

- **BIOL 1050** Biology of the Eukaryotic Cell
- **BIOL 1270** Advanced Biochemistry
- **BIOL 1300** Biomolecular Interactions: Health, Disease and Drug Design
- **BIOL 1310** Developmental Biology
- **BIOL 1330** Biology of Reproduction
- **BIOL 1540** Molecular Genetics
- **BIOL 1545** Human Genetics and Genomics
- **BIOL 1810** 21st Century Applications in Cell and Molecular Biology
- **BIOL 1820** Environmental Health and Disease
- **BIOL 1865** Toxicology
- **BIOL 1970A** Stem Cell Biology

**Ecology, Evolution and Organismal Biology**

- **BIOL 1420** Experimental Design in Ecology
- **BIOL 1430** Foundations of Population Genetics
- **BIOL 1435** Computational Methods for Studying Demographic History with Molecular Data
- **BIOL 1440** Marine Biology
- **BIOL 1450** Community Ecology
- **BIOL 1465** Human Population Genomics
- **BIOL 1470** Conservation Biology
- **BIOL 1475** Biogeography
- **BIOL 1480** Terrestrial Biogeochemistry and the Functioning of Ecosystems
- **BIOL 1495** 500 Million Years of Land Plants
- **BIOL 1515** Conservation in the Genomics Age
- **BIOL 1545** Human Genetics and Genomics
- **BIOL 1800** Animal Locomotion
- **BIOL 1880** Comparative Biology of the Vertebrates
- **BIOL 1885** Human Anatomy and Biomechanics

**Immunobiology**

- **BIOL 1250** Host-microbiome Interactions in Health and Disease
- **BIOL 1290** Cancer Biology
- **BIOL 1520** Innate Immunity
- **BIOL 1550** Parasitism: Biology and Disease
- **BIOL 1560** Virology
- **BIOL 1600** Development of Vaccines to Infectious Diseases

**Neurobiology**

- **BIOL 1100** Cell Physiology and Biophysics
- **BIOL 1110** Topics in Signal Transduction
- **BIOL 1190** Synaptic Transmission and Plasticity
- **BIOL 1260** Physiological Pharmacology
- **BIOL 1650** Structure of the Nervous System
- **BIOL 1610** Experimental Neurobiology

**NEUR listings 1000 level or above**

**Physiology and Biotechnology**

- **BIOL 1070** Biotechnology and Global Health
- **BIOL 1090** Polymer Science for Biomaterials
- **BIOL 1100** Cell Physiology and Biophysics
- **BIOL 1110** Topics in Signal Transduction
- **BIOL 1120** Biomaterials
- **BIOL 1140** Tissue Engineering
- **BIOL 1150** Stem Cell Engineering
- **BIOL 1160** Principles of Exercise Physiology
- **BIOL 1190** Synaptic Transmission and Plasticity
- **BIOL 1260** Physiological Pharmacology

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
### Undergraduate Concentrations

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>BIOL 1300</td>
<td>Biomolecular Interactions: Health, Disease and Drug Design</td>
</tr>
<tr>
<td>BIOL 1810</td>
<td>21st Century Applications in Cell and Molecular Biology</td>
</tr>
<tr>
<td>BIOL 1820</td>
<td>Environmental Health and Disease</td>
</tr>
<tr>
<td>BIOL 1865</td>
<td>Toxicology</td>
</tr>
</tbody>
</table>

### Physical Sciences

Physical Sciences

Must be a coherent set of courses drawn from the Physical Sciences; courses must be above the introductory level and approved by advisor

| Total Credits | 13 |

1. AP scores of 4 or 5 may substitute Math courses.
2. Biology courses for concentration credit include those numbered between 0100-2999.
3. At least two biology and/or neuroscience courses must be at the advanced level (between 1000-2999). At least three of the biology and/or neuroscience courses must include laboratory or fieldwork. BIOL 1950/BIOL 1960 can count for one of the three lab course requirements and one advanced course.
4. No substitutions per above Area list. If a course is listed in more than one area, it may be used to fulfill one area only; the other area must be fulfilled by a different course.

### Honors

Honors: Honors in biology requires a thesis and presentation based on a research project (usually conducted via BIOL 1950/BIOL 1960), and quality grades in the concentration. Guidelines and information on faculty research are available in the Office of Biology Undergraduate Education or at http://www.brown.edu/academics/biology/undergraduate-education/.

### Stipulations for Biology Programs:

1. For double concentrations, no more than two courses may overlap (i.e., be used to meet requirements of both concentrations) with a few specific exceptions (https://college.brown.edu/sites/g/files/dprerj916/files/2022-04/2-Course-Overlap-Exceptions-list-and-rule-for-web.docx).
2. No more than two semesters of directed research may be used as concentration credits. Each does count as an individual core course towards the program, but only carry one lab credit towards the three required.
3. A limited number of transfer or study abroad courses may be used within the program, subject to approval of advisor, and Associate Dean of Biology, Toni-Marie Achilli.

### Biomedical Engineering

Biomedical Engineering

The Sc.B. program in Biomedical Engineering is accredited by the Engineering Accreditation Commission of ABET http://www.abet.org/. It is jointly offered by the School of Engineering and the Division of Biology and Medicine as an interdisciplinary concentration designed for students interested in applying the methods and tools of engineering to the subject matter of biology and the life sciences. Alumni of the Biomedical Engineering (BME) program will achieve one or more of these program educational objectives (PEOs) within five (5) years of graduation: (1) Serve society through work or advanced study in a broad range of fields including, but not limited to, medicine, healthcare, industry, government, and academia; (2) Apply their deeply creative and versatile biomedical engineering education to solve a broad spectrum of engineering and societal challenges; and (3) Contribute as role models, mentors, or leaders in their fields. The student outcomes of this program are the ABET (1) - (7) Student Outcomes as defined by the ABET Criteria for Accrediting Engineering Programs (available online at http://www.abet.org/ accreditiation-criteria-policies-documents/). The Biomedical Engineering concentration shares much of the core with the other engineering programs, but is structured to include more courses in biology and chemistry, and a somewhat different emphasis in mathematics.

The requirements regarding Mathematics, Advanced Placement, Transfer Credit, Substitutions for Required Courses, and Humanities and Social Science Courses are identical to those of the Sc.B. degree programs in Engineering. Please refer to the Engineering section of the University Bulletin for explicit guidelines.

The Biomedical Engineering concentration shares much of the core with the other engineering programs, but is structured to include more courses in biology and chemistry, and a somewhat different emphasis in mathematics.

### Standard program for the Sc.B. degree

#### 1. Core Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGN 0030</td>
<td>Introduction to Engineering</td>
</tr>
<tr>
<td>or ENGN 0031</td>
<td>Honors Introduction to Engineering</td>
</tr>
<tr>
<td>or ENGN 0032</td>
<td>Introduction to Engineering: Design</td>
</tr>
<tr>
<td>ENGN 0040</td>
<td>Dynamics and Vibrations</td>
</tr>
<tr>
<td>ENGN 0510</td>
<td>Electricity and Magnetism</td>
</tr>
<tr>
<td>or ENGN 0520</td>
<td>Electrical Circuits and Signals</td>
</tr>
<tr>
<td>ENGN 0720</td>
<td>Thermodynamics</td>
</tr>
<tr>
<td>ENGN 0810</td>
<td>Fluid Mechanics</td>
</tr>
<tr>
<td>CHEM 0330</td>
<td>Equilibrium, Rate, and Structure</td>
</tr>
<tr>
<td>MATH 0190</td>
<td>Single Variable Calculus, Part II (Physics/Engineering)</td>
</tr>
<tr>
<td>or MATH 0100</td>
<td>Single Variable Calculus, Part II</td>
</tr>
<tr>
<td>CHEM 0350</td>
<td>Organic Chemistry I</td>
</tr>
<tr>
<td>MATH 0200</td>
<td>Multivariable Calculus (Physics/Engineering)</td>
</tr>
<tr>
<td>or MATH 0180</td>
<td>Multivariable Calculus</td>
</tr>
<tr>
<td>or MATH 0350</td>
<td>Multivariable Calculus With Theory</td>
</tr>
<tr>
<td>APMA 0350</td>
<td>Applied Ordinary Differential Equations</td>
</tr>
<tr>
<td>APMA 1650</td>
<td>Statistical Inference I</td>
</tr>
<tr>
<td>or BIOL 0495</td>
<td>Statistical Analysis of Biological Data</td>
</tr>
<tr>
<td>or PHP 1510</td>
<td>Principles of Biostatistics and Data Analysis</td>
</tr>
<tr>
<td>or APMA 1655</td>
<td>Honors Statistical Inference I</td>
</tr>
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</table>

#### 2. Upper Level Biomedical Engineering Curriculum

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGN 1110</td>
<td>Transport and Biotransport Processes</td>
</tr>
<tr>
<td>ENGN 1210</td>
<td>Biomechanics</td>
</tr>
<tr>
<td>ENGN 1230</td>
<td>Instrumentation Design</td>
</tr>
<tr>
<td>ENGN 1490</td>
<td>Biomaterials</td>
</tr>
<tr>
<td>BIOL 0800</td>
<td>Principles of Physiology</td>
</tr>
</tbody>
</table>

#### 3. Additional Biomedical Engineering Electives: Complete at least 3 courses from the following groups; other upper-level courses are subject to Concentration Advisor approval.

Select one or two of the following:

- CSCI 1810 Computational Molecular Biology
- or CSCI 1820 Algorithmic Foundations of Computational Biology
- ENGN 0500 Digital Computing Systems
- ENGN 1220 Neuroengineering
- ENGN 1510 Nanoeengineering and Nanomedicine
- ENGN 1520 Cardiovascular Engineering
- ENGN 1550 Recent Advances in Biomedical Engineering
- ENGN 1740 Computer Aided Visualization and Design
- ENGN 1930B Biomedical Optics
- ENGN 2625 Optical Microscopy: Fundamentals and Applications
- ENGN 2910S Cancer Nanotechnology
- ENGN 2911R Analytical Modeling for Biomechanical and Biomedical Systems
- ENGN 2912R Implantable Devices
- BIOL 1140 Tissue Engineering
- BIOL 1150 Stem Cell Engineering
- BIOL 2110 Drug and Gene Delivery

At least one or two more courses from:

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
### Standard program for the Sc.B. degree

#### Requirements

**Physics**

One of the following series:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 0030 &amp; PHYS 0040</td>
<td>2</td>
<td>Basic Physics A and Basic Physics B 1</td>
</tr>
<tr>
<td>PHYS 0050 &amp; PHYS 0060</td>
<td>1</td>
<td>Foundations of Mechanics and Foundations of Electromagnetism and Modern Physics</td>
</tr>
<tr>
<td>PHYS 0070 &amp; PHYS 0160</td>
<td>1</td>
<td>Analytical Mechanics and Introduction to Relativity, Waves and Quantum Physics</td>
</tr>
<tr>
<td>PHYS 0470</td>
<td>1</td>
<td>Electricity and Magnetism</td>
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**Chemistry**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>CHEM 0330</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 0350</td>
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</table>

### Biology

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>BIOL 0200</td>
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#### Mathematics

<table>
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<tr>
<th>Course</th>
<th>Credit</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 0090</td>
<td>1</td>
<td>Single Variable Calculus, Part I (or equivalent)</td>
</tr>
<tr>
<td>MATH 0100</td>
<td>1</td>
<td>Single Variable Calculus, Part II (or equivalent)</td>
</tr>
<tr>
<td>MATH 0180</td>
<td>1</td>
<td>Multivariable Calculus (or equivalent)</td>
</tr>
</tbody>
</table>

**Electives:** Four electives in biology, physics, math/applied math, chemistry, neuroscience, engineering or computer science; at least 2 courses must be above the introductory level.

#### Total Credits

21

---

1. Students who completed APMA 0330 and/or APMA 0340 prior to AY 2021-22 may count these as satisfying the APMA 0350 and/or APMA 0360 requirements.

2. In some rare cases, Independent Study may be substituted, subject to Concentration Advisor approval.

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### Biophysics

Biophysics is a quantitative science at the intersection of the life and physical sciences. It requires a significant level of competence in physics, chemistry, biology and math as reflected in the concentration requirements. Students should work with their concentration advisor to develop a focused academic plan that complements the required research component of the concentration and allows students to develop analytical and quantitative skills. Students are expected to take courses that will count toward the concentration for a grade (ABC/NC).

#### Student Goals:

Students in this concentration will:

- Explore the relationship between biological and physical principles by successfully completing foundational courses in biology, physics, math and chemistry
- Gain an in-depth knowledge of the interdisciplinary nature of life and physical sciences by selecting and successfully completing advanced courses in biology, physics, math, chemistry or related fields
- Develop skills to identify and analyze critical questions central to biophysics
- Apply quantitative methods to problems at the interface of life and physical sciences
- Complete a research project with a faculty advisor that focuses on a particular theme or problem in the field of biophysics where students apply knowledge gained throughout the curriculum.

Additional detailed information about the field of Biophysics may be found at: [https://www.brown.edu/academics/biology/undergraduate-education/undergraduate/biophysics](https://www.brown.edu/academics/biology/undergraduate-education/undergraduate/biophysics).

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For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
reasoning and quantitative research methods. In senior year capstone projects, students apply and integrate multi-disciplinary learning by working in groups on real world projects, including the creation of new ventures. BEO students interested in the theory and practice of addressing social challenges might consider the Engaged Scholars Program (https://www.brown.edu/academics/business-entrepreneurship-organizations/beo-engaged-scholar-program-esp/).

The Business, Entrepreneurship, and Organizations concentration is open only to students admitted in the fall of 2019 or prior.

The three tracks of the concentration are as follows:
1. Business Economics
2. Organizational Studies
3. Entrepreneurship and Technology Management

Upon completion of all concentration requirements, students receive the Bachelor of Arts (A.B.) degree in Business, Entrepreneurship and Organizations.

### The Curriculum

#### Business Economics Track

**Foundation Requirements (foundation requirements must be completed before taking the capstone in fall of senior year)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 0110</td>
<td>Principles of Economics</td>
<td>1</td>
</tr>
<tr>
<td>ECON 1110</td>
<td>Intermediate Microeconomics</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Any two of the following three courses:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SOC 0300 Organizations and Society</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>SOC 1311 Micro-Organizational Theory: Social Behavior in Organizations</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>SOC 1315 Macro-Organizational Theory: Organizations in Social Context</td>
<td>2</td>
</tr>
<tr>
<td>ENGN 0020</td>
<td>Transforming Society-Technology and Choices for the Future</td>
<td>1</td>
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<tr>
<td></td>
<td>or ENGN 0030 Introduction to Engineering</td>
<td>1</td>
</tr>
<tr>
<td>ENGN 1010</td>
<td>The Entrepreneurial Process</td>
<td>1</td>
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</table>

**Math and Statistics Requirements**

<table>
<thead>
<tr>
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<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>MATH 0100</td>
<td>Single Variable Calculus, Part II</td>
<td>1</td>
</tr>
<tr>
<td>or MATH 0170</td>
<td>Single Variable Calculus, Part II (Accelerated)</td>
<td>1</td>
</tr>
<tr>
<td>or ECON 0170</td>
<td>Essential Mathematics for Economics</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Or AP BC Calculus score of 4 or higher</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Or IB High-level Math minimum score of 5 (IB Standard-level is not accepted)</td>
<td>1</td>
</tr>
<tr>
<td>ENGN 1620</td>
<td>Introduction to Econometrics</td>
<td>1</td>
</tr>
</tbody>
</table>

**Track Requirements**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 0710</td>
<td>Financial Accounting</td>
<td>1</td>
</tr>
<tr>
<td>ECON 1210</td>
<td>Intermediate Macroeconomics</td>
<td>1</td>
</tr>
<tr>
<td>ECON 1629</td>
<td>Applied Research Methods for Economists</td>
<td>1</td>
</tr>
<tr>
<td>ECON 1710</td>
<td>Investments I</td>
<td>1</td>
</tr>
<tr>
<td>ECON 1720</td>
<td>Corporate Finance</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>One 1000-level economics course.</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Capstone: one-semester required (must be taken fall of senior year)</td>
<td>1</td>
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<tr>
<td>BEO 1930C</td>
<td>BEO Capstone I: Business Economics Track</td>
<td>1</td>
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</tbody>
</table>

**Total Credits** 15

#### Organizational Studies Track

**Foundation Requirements (foundation requirements must be completed before taking the capstone in fall of senior year)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ECON 0110</td>
<td>Principles of Economics</td>
<td>1</td>
</tr>
<tr>
<td>ECON 1110</td>
<td>Intermediate Microeconomics</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>ECON 1110 Intermediate Microeconomics</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>SOC 0300 Organizations and Society</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>SOC 1311 Micro-Organizational Theory: Social Behavior in Organizations</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>SOC 1315 Macro-Organizational Theory: Organizations in Social Context</td>
<td>2</td>
</tr>
</tbody>
</table>

**Math and Statistics Requirements**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 0100</td>
<td>Single Variable Calculus, Part II</td>
<td>1</td>
</tr>
<tr>
<td>or MATH 0170</td>
<td>Single Variable Calculus, Part II (Accelerated)</td>
<td>1</td>
</tr>
<tr>
<td>or ECON 0170</td>
<td>Essential Mathematics for Economics</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Or AP BC Calculus score of 4 or higher</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Or IB High-level Math with a minumum score of 5 (IB Standard-level is not accepted)</td>
<td>1</td>
</tr>
<tr>
<td>ENGN 0030</td>
<td>Introduction to Engineering</td>
<td>1</td>
</tr>
</tbody>
</table>

**Track Requirements**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC 0830</td>
<td>Sociology of Education</td>
<td>1</td>
</tr>
<tr>
<td>EDUC 1225</td>
<td>The American Teacher: How Policy Shapes the Profession</td>
<td>1</td>
</tr>
<tr>
<td>EDUC 1600</td>
<td>Education, the Economy and School Reform</td>
<td>1</td>
</tr>
<tr>
<td>ENGN 1931T</td>
<td>Entrepreneurship Practicum: Starting, Running, and Scaling Ventures</td>
<td>1</td>
</tr>
<tr>
<td>IAPA 1803E</td>
<td>Social Entrepreneurship</td>
<td>1</td>
</tr>
<tr>
<td>POLS 1150</td>
<td>Prosperity: The Ethics and Economics of Wealth Creation</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOC 1114</td>
<td>Law and Society</td>
<td>1</td>
</tr>
<tr>
<td>UNIV 1207</td>
<td>Eco-Entrepreneurship</td>
<td>1</td>
</tr>
<tr>
<td>URBN 1943</td>
<td>The Real Estate Development Process: An Entrepreneurial Lens</td>
<td>1</td>
</tr>
</tbody>
</table>

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
### One Advanced Organization Studies course (AOS). Not all of the courses listed here will be offered in any given semester, and others are sometimes added. The following are approved EXAMPLES—please consult with the Courses@Brown and the Brown.edu/BEO website for current offerings:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLPS 1730</td>
<td>Psychology in Business and Economics</td>
</tr>
<tr>
<td>IAPA 1804E</td>
<td>Health Policy Challenges</td>
</tr>
<tr>
<td>IAPA 1700E</td>
<td>Nonprofit Organizations</td>
</tr>
<tr>
<td>SOC 1060</td>
<td>Leadership in Organizations</td>
</tr>
<tr>
<td>SOC 1128</td>
<td>Migrants, Refugees and the Mediterranean</td>
</tr>
<tr>
<td>SOC 1870A</td>
<td>Investing in Social Change</td>
</tr>
<tr>
<td>SOC 1871O</td>
<td>Law, Innovation and Entrepreneurship</td>
</tr>
<tr>
<td>SOC 1872H</td>
<td>Sociology of FIRE: Finance, Insurance, + Real Estate</td>
</tr>
</tbody>
</table>

One Advanced Research Methods course (ARM). Not all of the courses listed here will be offered in any given semester, and others are sometimes added. The following are approved examples—please consult with Courses@Brown and the brown.edu/BEO website for current offerings:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTH 1940</td>
<td>Ethnographic Research Methods</td>
</tr>
<tr>
<td>EDUC 1630</td>
<td>Mathematical Econometrics I</td>
</tr>
<tr>
<td>EDUC 1230</td>
<td>Applied Statistics for Ed Research and Policy Analysis</td>
</tr>
<tr>
<td>SOC 1117</td>
<td>Focus Groups for Market and Social Research</td>
</tr>
<tr>
<td>SOC 1118</td>
<td>Context Research for Innovation</td>
</tr>
<tr>
<td>SOC 1260</td>
<td>Market Research in Public and Private Sectors</td>
</tr>
<tr>
<td>SOC 1340</td>
<td>Principles and Methods of Geographic Information Systems</td>
</tr>
</tbody>
</table>

Capstone: two-semesters required

- BEO 1930A & BEO 1940A
  - BEO Capstone I: Organizational Studies Track
  - BEO Capstone II: Organizational Studies Track

### Total Credits

**15**

1. If a student in the Organizational Studies track completes only the fall semester of the capstone course (BEO 1930A), she/he must take one additional ARM or AOS course.

### Entrepreneurship and Technology Management Track

### Foundation Requirements (foundation requirements must be completed before taking the capstone in fall of senior year)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 0110</td>
<td>Principles of Economics</td>
</tr>
<tr>
<td>ECON 1110</td>
<td>Intermediate Microeconomics</td>
</tr>
</tbody>
</table>

Any two of the following three courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOC 0300</td>
<td>Organizations and Society</td>
</tr>
<tr>
<td>SOC 1311</td>
<td>Micro-Organizational Theory: Social Behavior in Organizations</td>
</tr>
<tr>
<td>SOC 1315</td>
<td>Macro-Organizational Theory: Organizations in Social Context</td>
</tr>
<tr>
<td>ENGN 0030</td>
<td>Introduction to Engineering</td>
</tr>
</tbody>
</table>

### Math and Statistics Requirements

- **MATH 0200** Multivariable Calculus (Physics/Engineering)
- or **APMA 0330** Methods of Applied Mathematics I

- **SOC 1100** Introductory Statistics for Social Research
  - or **APMA 0650** Essential Statistics
  - or **ECON 1620** Introduction to Econometrics

### Track Requirements

- One gateway course in Engineering or another physical science
- Five courses that develop expertise in a technical subfield
- Capstone: two-semesters required (must be taken in fall and spring of senior year)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BEO 1930B</td>
<td>BEO Capstone I: Entrepreneurship and Technology Management Track</td>
</tr>
<tr>
<td>BEO 1940B</td>
<td>BEO Capstone II: Entrepreneurship and Technology Management Track</td>
</tr>
</tbody>
</table>

### Total Credits

**16**

1. For specific gateway and subfield courses, refer to the BEO website.

### Chemical Physics

Chemical Physics is an interdisciplinary field at the crossroads of chemistry and physics and is administered jointly by the two departments. The concentration provides students with a broad-based understanding in fundamental molecular sciences, as well as a background for graduate studies in physical chemistry, chemical physics, or molecular engineering. Concentrators are required to take twenty courses in chemistry, physics, and mathematics, although approved courses in applied mathematics, biology, computer science, geological sciences, or engineering may be substitutes. Chemical Physics concentrators are also advised to take at least six courses in the humanities and social sciences. Chemical Physics concentrators at all levels (first-year through seniors) are actively involved in research with faculty members in both departments.

### Standard program for the Sc.B. degree

Twenty-one semester courses in chemistry, physics, and mathematics, with a minimum of four semester courses in mathematics. The expectation is that courses required for a concentration in Chemical Physics will be taken for a letter grade. Core courses are:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 0330</td>
<td>Equilibrium, Rate, and Structure</td>
</tr>
<tr>
<td>CHEM 0350</td>
<td>Organic Chemistry I</td>
</tr>
<tr>
<td>CHEM 0500</td>
<td>Inorganic Chemistry</td>
</tr>
<tr>
<td>CHEM 1140</td>
<td>Physical Chemistry: Quantum Chemistry</td>
</tr>
<tr>
<td>PHYS 0070</td>
<td>Analytical Mechanics</td>
</tr>
<tr>
<td>PHYS 0160</td>
<td>Introduction to Relativity, Waves and Quantum Physics</td>
</tr>
<tr>
<td>PHYS 0470</td>
<td>Electricity and Magnetism</td>
</tr>
</tbody>
</table>

Select one of the following laboratory courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 1160</td>
<td>Physical Chemistry Laboratory</td>
</tr>
<tr>
<td>PHYS 0560</td>
<td>Experiments in Modern Physics</td>
</tr>
<tr>
<td>PHYS 1560</td>
<td>Modern Physics Laboratory</td>
</tr>
</tbody>
</table>

Select one course in statistical mechanics:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 1150</td>
<td>Physical Chemistry: Thermodynamics and Statistical Mechanics</td>
</tr>
<tr>
<td>PHYS 1530</td>
<td>Thermodynamics and Statistical Mechanics</td>
</tr>
<tr>
<td>MATH 0190</td>
<td>Single Variable Calculus, Part II (Physics/Engineering)</td>
</tr>
</tbody>
</table>

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Honors Requirements for Chemical Physics

All Chemical Physics concentrators who have grades of A or S with distinction in a majority of their concentration courses will be considered for Honors; no separate application is necessary. The requirements for Honors in Chemical Physics are:

* Two semesters of Independent Study (CHEM 0980 or equivalent). Guidelines and requirements associated with Independent Study are in the Undergraduate Concentration Handbook which can be found at the department website (http://www.brown.edu/academics/chemistry/undergraduate/).

* A Thesis in a form approved and recommended by the research advisor. Additional information about thesis guidelines will be provided to seniors by the Concentration Advisor.

* A Poster presentation at the chemistry department's spring undergraduate poster session.

Chemistry

The Chemistry concentration offers courses and research opportunities that range from fundamental studies involving the characterization and preparation of synthetic and naturally occurring molecules, to interdisciplinary studies at the interfaces of chemistry with biology, medicine, physics, engineering, and nanoscience. As early as their first year, undergraduates are able to work with faculty members on cutting edge research projects. The Sc.B. degree provides a thorough foundation for further graduate study or for entry-level technical positions in the molecular sciences. Students seeking the Sc.B. may either pursue the standard Chemistry concentration or one of two possible tracks: Chemical Biology or Materials Chemistry. Students may also consider a Materials Chemistry track. These tracks are not separate concentrations – your degree will still be an Sc.B. in Chemistry. The Chemical Biology track is designed for students who have a strong interest in the interface of chemistry with biology. The Materials Chemistry track is designed for students who have a strong interest in the interface of chemistry with nanoscience and materials science. It is recommended that courses in the concentration be taken for a letter grade, and any decision to take a concentration course S/NC should be made after consultation with a concentration advisor.

Standard program for the A.B. degree

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 0330</td>
<td>Equilibrium, Rate, and Structure</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 0350</td>
<td>Organic Chemistry I</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 0360</td>
<td>Organic Chemistry II</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 0500</td>
<td>Inorganic Chemistry</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 0600</td>
<td>Preparative Chemistry Lab</td>
<td>.5</td>
</tr>
<tr>
<td>CHEM 1140</td>
<td>Physical Chemistry: Quantum Chemistry</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 1150</td>
<td>Physical Chemistry: Thermodynamics and Statistical Mechanics</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 1160</td>
<td>Physical Chemistry Laboratory</td>
<td>1</td>
</tr>
</tbody>
</table>

One upper level CHEM elective.  

Total Credits 8.5

1 Note that the physical chemistry courses (CHEM 1140, CHEM 1150, CHEM 1160) have mathematics and physics prerequisites.

2 Upper level chemistry course are any 1000- and 2000- CHEM course. BIOL 0280 is credited as an upper level chemistry elective for chemistry concentration purposes. You should discuss your elective choices with your Concentration Advisor to craft a course of study that is appropriate for your interests.

Standard program for the Sc.B. degree

The Chemistry Department offers three options for the Sc.B. Chemistry Concentration – a straight Chemistry option, a Chemical Biology track and a Materials Chemistry track. These tracks are not separate concentrations – your degree will still be an Sc.B. in Chemistry. The Chemical Biology track is designed for students who have a strong interest in the interface of chemistry with biology. The Materials Chemistry track is designed for students who have a strong interest in the interface of chemistry with nanoscience and materials science.

Chemical Biology track

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 0330</td>
<td>Equilibrium, Rate, and Structure</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 0350</td>
<td>Organic Chemistry I</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 0360</td>
<td>Organic Chemistry II</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 0400</td>
<td>Biophysical and Bioinorganic Chemistry</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 0500</td>
<td>Inorganic Chemistry</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 0600</td>
<td>Preparative Chemistry Lab</td>
<td>.5</td>
</tr>
</tbody>
</table>

Two semesters of independent study:

CHEM 0980 Undergraduate Research 1

Total Credits 18.5

Chemical Biology track

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 0330</td>
<td>Equilibrium, Rate, and Structure</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 0350</td>
<td>Organic Chemistry I</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 0360</td>
<td>Organic Chemistry II</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 0400</td>
<td>Biophysical and Bioinorganic Chemistry</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 0500</td>
<td>Inorganic Chemistry</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 0600</td>
<td>Preparative Chemistry Lab</td>
<td>.5</td>
</tr>
</tbody>
</table>

Two semesters of independent study:

CHEM 0980 Undergraduate Research 1

Total Credits 18.5

Materials Chemistry track

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 0330</td>
<td>Equilibrium, Rate, and Structure</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 0350</td>
<td>Organic Chemistry I</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 0360</td>
<td>Organic Chemistry II</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 0400</td>
<td>Biophysical and Bioinorganic Chemistry</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 0500</td>
<td>Inorganic Chemistry</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 0600</td>
<td>Preparative Chemistry Lab</td>
<td>.5</td>
</tr>
</tbody>
</table>

Two semesters of independent study:

CHEM 0980 Undergraduate Research 1

Total Credits 18.5

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Two other electives 3 2
Total Credits 18.5

ScB Chemistry - Materials Chemistry Track:

CHEM 0330 Equilibrium, Rate, and Structure 1
CHEM 0350 Organic Chemistry I 1
CHEM 0360 Organic Chemistry II 1
CHEM 0500 Inorganic Chemistry 1
CHEM 0600 Preparative Chemistry Lab .5
Two semesters of independent study: 2
   CHEM 0980 Undergraduate Research
   or CHEM 0981 Undergraduate Research - Writing Designated
CHEM 1060 Advanced Inorganic Chemistry 5
CHEM 1140 Physical Chemistry: Quantum Chemistry 1
CHEM 1150 Physical Chemistry: Thermodynamics and Statistical Mechanics 5
CHEM 1700 Nanoscale Materials: Synthesis and Applications 1
MATH 0180 or equivalent 4
Two Physics courses, typically 0030/0040 or 0050/0060 5
One of the following courses 1
   BIOL 1090 Polymer Science for Biomaterials (or)
   BIOL 1120/ BIOL 1140 Tissue Engineering (or)
   ENGN 1470 Composite Materials (or)
   ENGN 1490 Biomaterials (or)
Four electives, at least two must be upper level CHEM courses. 3 4
Total Credits 18.5

1 Two semesters of undergraduate research are required for the concentration. Chem0980 and 0981 are courses which may be repeated for credit.
2 NOTE: MATH 0180 has additional prerequisites.
3 Upper level chemistry courses are any 1000- and 2000-level CHEM course. BIOL 0280 is credited as an upper level chemistry elective for the chemistry concentration. Non CHEM electives are typically foundational courses or upper level science/math courses with a significant molecular focus or those that cover tools/techniques that are of utility to a chemist. You should discuss your elective choices with your Concentration Advisor to craft a course of study that is appropriate for your interests.
4 NOTE: Many of the BIOL courses have BIOL 0200 as a prerequisite.
5 For students with more Engineering bent, the following substitutions can be made - ENGN 0030/ENGN 0040 can be substituted for PHYS; ENGN 0410 can be substituted for CHEM 1060; ENGN 0720 for CHEM 1150.

Honors Requirements for Chemistry

All Chemistry concentrators who have grades of A or S with distinction in a majority of their concentration courses after their seventh semester are eligible for Honors; no separate application is necessary.

The requirements for Honors in Chemistry are:

* Grades of A or S with distinction in a majority of courses taken for the concentration.
* Two semesters of Undergraduate Research CHEM 0980, CHEM 0981 or equivalent. Guidelines and requirements associated with Undergraduate Research are in the Undergraduate Concentration Handbook which can be found at the department website (http://www.brown.edu/academics/chemistry/undergraduate/).

* A Senior Thesis in a form approved and recommended by the research advisor. Additional information about thesis guidelines will be provided to seniors by the Director of Undergraduate Studies.

* A Senior Poster presentation at the chemistry department’s spring undergraduate poster session.

Classics

The study of Classics focuses on the languages, literature, history, culture, and legacy of Greco-Roman antiquity. An undergraduate concentration in Classics furnishes students with a broad liberal education, and provides specialized training for those students intending to enter graduate school. Students may choose to study Ancient Greek, Latin, Sanskrit, and/or Modern Greek, and to explore courses in literature, mythology, history, philosophy, and religion. Students may either pursue the standard Classics concentration – the most popular choice – or one of several optional tracks: Greek, Latin and Greek, South Asian Classics, Sanskrit, Greek and Sanskrit, or Latin and Sanskrit. Concentrators who pursue an honors degree write a senior thesis, typically over the course of two semesters during their senior year.

Beginning with declarations submitted after September 1, 2018, all tracks except “Greek and Latin,” “Greek and Sanskrit,” and “Latin and Sanskrit” require the satisfactory completion of nine courses as described below. The introductory courses in Greek and Latin may not usually be counted toward a concentration, but those in Sanskrit may be counted toward the concentration requirement in some of the tracks. Students should always consult with the Director of Undergraduate Studies regarding their path toward fulfilling requirements and choosing electives.

Classics

One course in Greek or Latin on the 1000-level or above. 1

Select any two of the four ancient history courses:

CLAS 1210 Mediterranean Culture Wars: Archaic Greek History, c. 1200 to 479 BC
CLAS 1220 The Fall of Empires and Rise of Kings: Greek History 478 to 323 BC
or HIST 1200B The Fall of Empires and Rise of Kings: Greek History to 478 to 323 BCE
CLAS 1310 Roman History I: The Rise and Fall of an Imperial Republic
CLAS 1320 Roman History II: The Roman Empire and Its Impact
or HIST 1201B Roman History II: The Empire

Five other courses in classics, including classical archaeology, Greek (excluding GREK 0100, 0200, 0110), Latin (excluding LATN 0100, 0200, 0110), Sanskrit, or related areas to be approved by the concentration advisor. At least three of these five courses must be offered through the Department of Classics.

One further course offered by the Department of Classics and designated “Classics and Beyond,” OR a DIAP course offered by the Department of Classics. 3

Total Credits 9

1 Options include, but are not limited to: GREK 1110B, GREK 1110S, GREK 1111B, GREK 1150, GREK 1810, LATN 1020D, LATN 1040B, LATN 1060G, LATN 1110F, LATN 1110P, LATN 1820, LATN 1930B, and with instructor permission for those who are very advanced in Greek or Latin: GREK 2020E, GREK 2110K, and LATN 2080F LATN 2090I.
2 Options offered by the Department of Classics include, but are not limited to: CLAS 0150, CLAS 0660, CLAS 0765, CLAS 0780, CLAS 0855, CLAS 0900, CLAS 1120G, CLAS 1120Q, CLAS 1120U, CLAS 1145, CLAS 1310, CLAS 1320, CLAS 1750H, GREK 0100, GREK 1110H, GREK 1110B, GREK 1110S, GREK 1150, GREK 1810, LATN 1020D, LATN 1040B, LATN 1060G, LATN 1110F, LATN 1110H, LATN 1110P, LATN 1820, LATN 1930B, SANS 0100 and SANS 0200.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
### Greek

Four Greek courses on the 1000-level or above, at least one of which is to be:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>GREK 1810</td>
<td>Greek Literature Survey to 450 BCE</td>
</tr>
<tr>
<td>or GREK 1820</td>
<td>Greek Literature Survey after 450 BCE</td>
</tr>
<tr>
<td>CLAS 1210</td>
<td>Mediterranean Culture Wars: Archaic Greek History, c. 1200 to 479 BC</td>
</tr>
<tr>
<td>CLAS 1220</td>
<td>The Fall of Empires and Rise of Kings: Greek History 478 to 323 BC</td>
</tr>
</tbody>
</table>

Two additional courses in classics, including classical archaeology, Greek (excluding GREK 0100, 0200, 0110), or related areas to be approved by the concentration advisor. At least one of these two courses must be offered through the Department of Classics.

One further course offered by the Department of Classics and designated "Classics and Beyond," OR a DIAP course offered by the Department of Classics.

**Total Credits**

4

### Latin

Four Latin courses on the 1000-level or above, at least one of which is to be:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>LATN 1810</td>
<td>Survey of Republican Literature</td>
</tr>
<tr>
<td>or LATN 1820</td>
<td>Survey of Republican Literature II: Empire</td>
</tr>
<tr>
<td>CLAS 1310</td>
<td>Roman History I: The Rise and Fall of an Imperial Republic</td>
</tr>
<tr>
<td>CLAS 1320</td>
<td>Roman History II: The Roman Empire and Its Impact</td>
</tr>
<tr>
<td>or HIST 1201B</td>
<td>Roman History II: The Empire</td>
</tr>
</tbody>
</table>

Two additional courses in classics, including classical archaeology, Greek (excluding GREK 0100, 0200, 0110), Latin (excluding LATN 0100, 0200, 0110), or related areas to be approved by the concentration advisor. At least one of these two courses must be offered through the Department of Classics.

One further course offered by the Department of Classics and designated "Classics and Beyond," OR a DIAP course offered by the Department of Classics.

**Total Credits**

9

### Greek and Latin

Ancient Language A (Either Latin or Ancient Greek) requires four (4) courses on the 1000-level. Typically Ancient Language A will be the one in which a survey course will be taken.

One of the survey courses in Ancient Language A:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>LATN 1810</td>
<td>Survey of Republican Literature</td>
</tr>
<tr>
<td>or LATN 1820</td>
<td>Survey of Republican Literature II: Empire</td>
</tr>
<tr>
<td>GREEK 1810</td>
<td>Greek Literature Survey to 450 BCE</td>
</tr>
<tr>
<td>or GREEK 1820</td>
<td>Greek Literature Survey after 450 BCE</td>
</tr>
</tbody>
</table>

Any THREE of the FOUR Ancient History courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLAS 1210</td>
<td>Mediterranean Culture Wars: Archaic Greek History, c. 1200 to 479 BC</td>
</tr>
<tr>
<td>CLAS 1220</td>
<td>The Fall of Empires and Rise of Kings: Greek History 478 to 323 BC</td>
</tr>
<tr>
<td>CLAS 1320</td>
<td>Roman History II: The Roman Empire and Its Impact</td>
</tr>
<tr>
<td>or HIST 1201B</td>
<td>Roman History II: The Empire</td>
</tr>
</tbody>
</table>

One further course offered by the Department of Classics and designated "Classics and Beyond," OR a DIAP course offered by the Department of Classics.

**Total Credits**

13

For more information, please visit Courses@Brown.edu (https://cab.brown.edu).
Sanskrit

Two Sanskrit courses at the 1000-level or above

Two of the Sanskrit Classics Courses in Translation

Four other courses in Classics or related areas (such as Comparative Literature, Religious Studies, South Asian Studies, Early Cultures, etc., including SANS 0300 and SANS 0400) to be approved by the concentration advisor

One further course offered by the Department of Classics and designated "Classics and Beyond," OR a DIAP course offered by the Department of Classics.

Total Credits: 9

Greek and Sanskrit

Four Sanskrit courses at any level

Four Greek courses on the 1000-level or above, at least one of which is to be:

GREK 1810 Greek Literature Survey to 450 BCE
or GREK 1820 Greek Literature Survey after 450 BCE

One of the two Ancient Greek History Courses:

Either

CLAS 1210 Mediterranean Culture Wars: Archaic Greek History, c. 1200 to 479 BC

or

CLAS 1220 The Fall of Empires and Rise of Kings: Greek History 478 to 323 BC
or HIST 1200B The Fall of Empires and Rise of Kings: Greek History to 478 to 323 BCE

Two additional courses in Classics (including GREK 0300 and GREK 0400) or related areas (such as Comparative Literature, Religious Studies, South Asian Studies, Early Cultures, etc.) to be approved by the concentration advisor.

One further course offered by the Department of Classics and designated "Classics and Beyond" or a DIAP course offered by the department of Classics.

Total Credits: 12

Latin and Sanskrit

Four Sanskrit courses at any level

Four Latin courses on the 1000-level or above, at least one of which is to be:

LATN 1810 Survey of Republican Literature
or LATN 1820 Survey of Roman Literature II: Empire

One of the two Roman Ancient History courses:

Either

CLAS 1310 Roman History I: The Rise and Fall of an Imperial Republic

or

CLAS 1320 Roman History II: The Roman Empire and Its Impact
or HIST 1201B Roman History II: The Empire

Two additional courses in Classics (including LATN 0300 and LATN 0400) or related areas (such as Comparative Literature, Religious Studies, South Asian Studies, Early Cultures, etc.) to be approved by the concentration advisor.

One further course offered by the Department of Classics and designated "Classics and Beyond" or a DIAP course offered by the department of Classics.

Total Credits: 12

Honors

Students may earn honors in the concentration by presenting a satisfactory thesis, for the preparation of which they will ordinarily enroll in the relevant 1990 courses; these courses may not be used to satisfy the standard requirements for a concentration. In order to qualify, the candidate for honors in the Department of Classics ordinarily will be entering his/her seventh semester of study and must have an “A” average (3.50 or higher on a 4.00 scale) in the concentration.

Cognitive Neuroscience

Cognitive neuroscience is the study of higher cognitive functions in humans and their underlying neural bases. It is an integrative area of study drawing primarily from cognitive science, psychology, neuroscience, and linguistics. There are two broad directions that can be taken in this concentration - one is behavioral/experimental and the other is computational/modeling. In both, the goal is to understand the nature of cognition from a neural perspective. The standard concentration for the Sc.B. degree requires courses on the foundations, systems level, and
integrative aspects of cognitive neuroscience as well as laboratory and elective courses that fit within a particular theme or category such as general cognition, perception, language development or computational/ modeling. Concentrators must also complete a senior seminar course or an independent research course. Students may also participate in the work of the Brown Institute for Brain Science, an interdisciplinary program that unites ninety faculty from eleven departments.

**Standard Program for the AB degree**  
*(Effective Class of 2019)*

The A.B. concentration requires 12 courses. The Sc.B concentration additionally requires 1 laboratory course and 4 approved science courses, totaling to a total of 17 required courses.

**Common Core**

The introductory course, “CLPS 0010 Mind, Brain, and Behavior,” surveys the broad territory of the scientific study of the mind, as uniquely represented by our department. The course maps the breadth of the science of the mind, focusing on fascinating questions, garnered insights, common commitmets, and successful techniques and approaches. The course can be taken by students interested in the CLPS concentrations or as an introductory survey course at the beginning of one’s college career. AP Psychology is not an acceptable equivalent for CLPS 0010. Careers in Cognitive Neuroscience and related fields require familiarity with statistics. Therefore, the Cognitive Neuroscience concentration requires a course in Quantitative Methods (CLPS 0900). CLPS 0900 is a prerequisite for most of the laboratory courses, so concentrators should plan to take this course by their fourth semester. The department does not grant concentration credit of AP Statistics, regardless of score. Students who feel that CLPS 0900 is too elementary can complete an approved alternative course (e.g., APMA 1650, CLPS 2906, PHP 1501, ECON 1629, APMA 1660).

**Foundation**

To provide students with a solid foundation of knowledge in their area of concentration and to minimize redundancy, the Cognitive Neuroscience concentration requires four foundation courses in Neuroscience, Cognitive Neuroscience, Cognitive Neuropsychology, and Computational Methods.

**Electives**

Each concentrator will take four additional courses that allow the student to go into depth in some of the relevant topics. Three of these courses must be 1000-level courses. Some courses designed to count as electives will often have foundation courses as prerequisites and may include laboratory courses, content courses, or seminars.

**Research Methods**

Another element in the Cognitive Neuroscience concentration is a research methods course that builds on the introductory statistics course (which will be a prerequisite) but exposes students to a variety of topics in research of the mind: to empirical methods (e.g., surveys, chronometry, eye tracking, brain imaging), to common designs (e.g., factorial experimental, correlational, longitudinal), to research ethics, and to best practices of literature review. Alternatively, students may take an approved laboratory course.

**Capstone**

Concentrators will additionally take either a seminar course or an independent research course to serve as their capstone experience.

**Additional requirements for Sc.B.**

In line with university expectations, the Sc.B. requirements include a greater number of courses and especially science courses. The definition of "science" is flexible. A good number of these courses will be outside of CLPS, but several CLPS courses might fit into a coherent package as well. In addition, the Sc.B. degree also requires a lab course to provide these students with in-depth exposure to research methods in a particular area of the science of the mind.

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**Honors Requirement**

An acceptable upper level Research Methods, for example CLPS 1900 or an acceptable Laboratory course (see below) will serve as a requirement for admission to the Honors program in Cognitive Neuroscience.

**FOR DETAILED UPDATES, PLEASE REFER TO THE COGNITIVE, LINGUISTIC, AND PSYCHOLOGICAL SCIENCES (CLPS) UNDERGRADUATE PAGE.**

**Requirements for the A.B. degree**

**STANDARD PROGRAM FOR THE A.B. DEGREE**

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLPS 0010</td>
<td>Mind, Brain and Behavior: An Interdisciplinary Approach</td>
<td>1</td>
</tr>
<tr>
<td>CLPS 0900</td>
<td>Statistical Methods</td>
<td>1</td>
</tr>
<tr>
<td>One approved course in Cognitive Neuroscience, such as:</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>CLPS 0150</td>
<td>Behavioral Neuroscience: Introduction to Biological Psychiatry</td>
<td>1</td>
</tr>
<tr>
<td>CLPS 0400</td>
<td>Cognitive Neuroscience</td>
<td></td>
</tr>
<tr>
<td>CLPS 0450</td>
<td>Brain Damage and the Mind</td>
<td></td>
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<tr>
<td>One approved course in Neuroscience, such as:</td>
<td></td>
<td></td>
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<tr>
<td>NEUR 0010</td>
<td>The Brain: An Introduction to Neuroscience</td>
<td></td>
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<tr>
<td>NEUR 1020</td>
<td>Principles of Neurobiology</td>
<td></td>
</tr>
<tr>
<td>NEUR 1030</td>
<td>Neural Systems</td>
<td></td>
</tr>
<tr>
<td>One approved course in Cognitive Neuropsychology, such as:</td>
<td>1</td>
<td></td>
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<tr>
<td>CLPS 0200</td>
<td>Human Cognition</td>
<td></td>
</tr>
<tr>
<td>CLPS 0450</td>
<td>Brain Damage and the Mind</td>
<td></td>
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<tr>
<td>CLPS 1420</td>
<td>Cognitive Neuropsychology</td>
<td></td>
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<tr>
<td>One approved course in Computational Methods, such as:</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>CLPS 0950</td>
<td>Introduction to programming</td>
<td></td>
</tr>
<tr>
<td>CLPS 1291</td>
<td>Computational Methods for Mind, Brain and Behavior</td>
<td></td>
</tr>
<tr>
<td>CLPS 1492</td>
<td>Computational Cognitive Neuroscience</td>
<td></td>
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<tr>
<td>CLPS 1950</td>
<td>Deep Learning in Brains, Minds</td>
<td></td>
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<tr>
<td>CSCI 0111</td>
<td>Computing Foundations: Data</td>
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<tr>
<td>CSCI 0150</td>
<td>Introduction to Object-Oriented Programming and Computer Science</td>
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<tr>
<td>NEUR 1440</td>
<td>Mechanisms and Meaning of Neural Dynamics</td>
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</tr>
<tr>
<td>NEUR 1630</td>
<td>Big Data Neuroscience Ideas Lab</td>
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<tr>
<td>NEUR 1680</td>
<td>Computational Neuroscience</td>
<td></td>
</tr>
</tbody>
</table>

**Four Approved Electives:** 4

Any 1000-level course in CLPS or NEUR that is not being used to fulfill another requirement and fits with a unified theme is acceptable. Themes could be any of the foundation areas or some other theme that has three available 1000-level courses, for example, language, developmental or decision-making. Courses outside CLPS and NEUR may also be acceptable if they fit with the unified theme.

**One Independent Study or Approved Seminar, such as:** 1

Acceptable Independent Research Courses: CLPS 1980 or NEUR 1970

Acceptable seminars: Any 1000-level seminar in CLPS or NEUR

**Research Methods:** 1

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLPS 1900</td>
<td>Research Methods And Design</td>
</tr>
<tr>
<td>CLPS 1901</td>
<td>Research Methods</td>
</tr>
</tbody>
</table>

Acceptable Laboratory courses: Any 1000-level course in CLPS or NEUR. Laboratory courses outside of CLPS or NEUR are not acceptable

**Total Credits** 12

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Requirements for the Sc.B. degree

The Sc.B. requires all twelve of the courses required by the AB, above.

Plus five additional courses as outlined, below:

One Approved Laboratory Course, such as:
- NEUR 1600 Experimental Neurobiology
- NEUR 1650 Structure of the Nervous System

Laboratory courses outside of CLPS or NEUR are not acceptable

Four Approved Science Courses, such as:
- Any 1000-level course in CLPS or NEUR
- Any course that is acceptable for concentrations in APMA, BIOL, CHEM, CSCI, MATH or PHYS is acceptable as a science course

Total Credits 17

Cognitive Science

The field of Cognitive Science uses scientific methods of experimentation, computational modeling, and brain imaging to study mental abilities such as perception, action, memory, cognition, speech, and language, as well as the development and evolution of those processes. Students must become knowledgeable in four areas of emphasis: perception, cognition, language, and computational methods, as well as a set of methods relevant to Cognitive Science research. Students then create their own focus area of study, potentially integrating coursework from the Cognitive, Linguistic, and Psychological Sciences department with a diverse subset of fields including Computer Science, Neuroscience, Philosophy, Anthropology, Applied Math and Education. The A.B. program is primarily for students interested in studying human mental processes and acquiring a research orientation to the study of the mind. The Sc.B. program is designed for students who wish to develop a stronger background in Cognitive Science and requires students to engage in a specific research project in the focus area of their choosing. We recommend that prospective concentrators register for one of the gateway courses and at least one other core course in their first or second year.

Concentration Requirements (Effective, Class of 2019)

The A.B. concentration requires 12 courses. The Sc.B concentration additionally requires 1 laboratory course and 4 approved science courses, totaling to a total of 17 required courses.

Common Core

The introductory course, “CLPS 0010 Mind, Brain, and Behavior,” surveys the broad territory of the scientific study of the mind, as uniquely represented by our department. The course maps the breadth of the science of the mind, focusing on fascinating questions, garnered insights, common commitments, and successful techniques and approaches. The course could be taken by students interested in the CLPS concentrations or as an introduction at the beginning of one’s college career or as an integration after having completed a number of specialized courses in a particular concentration.

Careers in Cognitive Science and related fields requires familiarity with statistics. Therefore, the Cognitive Science concentration requires a course in Quantitative Methods (CLPS 0900). CLPS 0900 is a prerequisite for most of the laboratory courses, so concentrators should plan to take this course by their fourth semester. The department does not grant concentration credit of AP Statistics, regardless of score. Students who feel that CLPS 0900 is too elementary can complete an approved alternative course (e.g., APMA 1650, CLPS 2906).

Foundation

To provide students with a solid foundation of knowledge in their area of concentration and to minimize redundancy, the Cognitive Science concentration requires four foundation courses in Human Cognition, Perception, Language, and Computational Methods.

Electives

Each concentrator will take four additional courses that allow the student to go into depth in some of the relevant topics. These electives must include at least two courses in one of the four foundation topics (i.e., Human Cognition, Perception, Language, and Computational Methods). The courses designed to count as electives will often have foundation courses as prerequisites and may include laboratory courses, content courses, or seminars.

Research Methods and Capstone

Another element in the Cognitive Science concentration is a research methods course that builds on the introductory statistics course (which will be a prerequisite) but exposes students to a variety of topics in research of the mind: to empirical methods (e.g., surveys, chronometry, eye tracking, brain imaging), to common designs (e.g., factorial experimental, correlational, longitudinal), to research ethics, and to best practices of literature review. Concentrators will additionally take either a seminar course or an independent research course to serve as their capstone experience.

Additional requirements for Sc.B.

In line with university expectations, the Sc.B. requirements include a greater number of courses and especially science courses. The definition of “science” is flexible. A good number of these courses will be outside of CLPS, but several CLPS courses might fit into a coherent package as well. In addition, the Sc.B. degree also requires a lab course to provide these students with in-depth exposure to research methods in a particular area of the science of the mind.

Honors Requirement

The Honors Program in Cognitive Science gives undergraduates a special opportunity to carry out a research project under the direction of a faculty member. The program also provides the opportunity for outstanding senior concentrators to receive their undergraduate degree with Honors. Participation in the program allows students to develop an understanding of research and acquire research skills and background.

Candidates for Honors in Cognitive Science must meet all of the requirements of the concentration as described above. Candidates submit their application for the program in semester 7. We encourage students to seek out a faculty mentor prior to semester 7 as well as complete certain course requirements before semester 7.

For detailed updates, please refer to the Cognitive, Linguistic, and Psychological Sciences (CLPS) Undergraduate page.

Requirements for the A.B. degree

STANDARD PROGRAM FOR THE A.B. DEGREE

<table>
<thead>
<tr>
<th>Two Common Core Courses</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLPS 0010 Mind, Brain, and Behavior: An Interdisciplinary Approach</td>
<td>1</td>
</tr>
<tr>
<td>CLPS 0900 Statistical Methods</td>
<td>1</td>
</tr>
<tr>
<td>Four Approved Foundation Courses</td>
<td>1</td>
</tr>
<tr>
<td>One approved course in Human Cognition, such as:</td>
<td>1</td>
</tr>
<tr>
<td>CLPS 0200 Human Cognition</td>
<td>1</td>
</tr>
<tr>
<td>CLPS 0220 Making Decisions</td>
<td>1</td>
</tr>
<tr>
<td>One approved course in Perception:</td>
<td>1</td>
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<tr>
<td>CLPS 0500 Perception and Mind</td>
<td>1</td>
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<tr>
<td>One approved course in Language, such as:</td>
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<tr>
<td>CLPS 0800 Language and the Mind</td>
<td>1</td>
</tr>
<tr>
<td>CLPS 0300 Introduction to Linguistics</td>
<td>1</td>
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<tr>
<td>One approved course in Computational Methods, such as:</td>
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<tr>
<td>CLPS 0950 Introduction to programming</td>
<td>1</td>
</tr>
</tbody>
</table>

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
CLPS 1291  Computational Methods for Mind, Brain and Behavior

Four Approved Electives related to Cognitive Science, such as:  
APMA 1690  Computational Probability and Statistics  
BIOL 0480  Evolutionary Biology  
CLPS 0540  Simulating Reality: The (Curious) History and Science of Immersive Experiences

CLPS 0550  Science of Consciousness  
CLPS 1100  Animal Cognition  
CLPS 1150  Memory and the Brain  
CLPS 1210  Human Memory and Learning  
CLPS 1470  Mechanisms of Motivated Decision Making  
CLPS 1500  Perception and Action  
CLPS 1610  Cognitive Development  
CLPS 1660  Learning Compositional Language  
CLPS 1800  Language Processing  
CLPS 1850  Language Processing in Humans and Machines  
CSCI 1010  Theory of Computation  
CSCI 1480  Building Intelligent Robots  
ENGN 1580  Communication Systems  
PHIL 1800  Philosophy of Mind

One Independent Study or Approved Seminar, such as:  
CLPS 1400  The Neural Bases of Cognition  
CLPS 1480B  Cognitive Aging and Dementia  
CLPS 1480C  Cognitive Control Functions of the Prefrontal Cortex  
CLPS 1495  Affective Neuroscience  
CLPS 1560  Visually-Guided Action and Cognitive Processes

One Research Methods Course  
CLPS 1900  Research Methods And Design  
CLPS 1901  Research Methods

Total Credits  12

Requirements for the Sc.B. degree

STANDARD PROGRAM FOR THE Sc.B. DEGREE

Two Common Core Courses  
CLPS 0010  Mind, Brain and Behavior: An Interdisciplinary Approach  
CLPS 0900  Statistical Methods  

Four Approved Foundation Courses  
One approved course in Human Cognition, such as:  
CLPS 0200  Human Cognition  
CLPS 0220  Making Decisions  

One approved course in Perception  
CLPS 0500  Perception and Mind  

One approved course in Language, such as:  
CLPS 0300  Introduction to Linguistics  
CLPS 0800  Language and the Mind  

One approved course in Computational Methods, such as:  
CLPS 0950  Introduction to programming  
CLPS 1291  Computational Methods for Mind, Brain and Behavior  

Four Approved Electives, such as:  
APMA 1690  Computational Probability and Statistics  
BIOL 0480  Evolutionary Biology  
CLPS 0540  Simulating Reality: The (Curious) History and Science of Immersive Experiences

CLPS 0550  Science of Consciousness  
CLPS 1100  Animal Cognition  
CLPS 1150  Memory and the Brain  
CLPS 1210  Human Memory and Learning  
CLPS 1470  Mechanisms of Motivated Decision Making  
CLPS 1500  Perception and Action  
CLPS 1610  Cognitive Development  
CLPS 1660  Learning Compositional Language  
CLPS 1800  Language Processing  
CLPS 1850  Language Processing in Humans and Machines  
CSCI 1010  Theory of Computation  
CSCI 1480  Building Intelligent Robots  
ENGN 1580  Communication Systems  
PHIL 1800  Philosophy of Mind

One Independent Study or Approved Seminar, such as:  
CLPS 1400  The Neural Bases of Cognition  
CLPS 1480B  Cognitive Aging and Dementia  
CLPS 1480C  Cognitive Control Functions of the Prefrontal Cortex  
CLPS 1495  Affective Neuroscience  
CLPS 1560  Visually-Guided Action and Cognitive Processes

One Research Methods Course  
CLPS 1900  Research Methods And Design  
CLPS 1901  Research Methods

One Approved Laboratory Course, such as:  
CLPS 1192  Experimental Analysis of Animal Behavior and Cognition  
CLPS 1193  Laboratory in Genes and Behavior  
CLPS 1492  Computational Cognitive Neuroscience  
CLPS 1510  Laboratory in Auditory Perception  
CLPS 1591  Experimental Analysis of Vision for Action and Vision for Perception: Are There Separate Mechanisms?

CLPS 1791  Laboratory in Social Cognition  
CLPS 1890  Laboratory in Psycholinguistics

Four Approved Science Courses, such as:  
BIOL 0200  The Foundation of Living Systems  
BIOL 0800  Principles of Physiology  
CHEM 0350  Organic Chemistry I  
CSCI 1430  Computer Vision  
ENGN 1220  Neuroengineering  
MATH 0100  Single Variable Calculus, Part II  
NEUR 1030  Neural Systems  
NEUR 1040  Introduction to Neurogenetics  
PHYS 0030  Basic Physics A

Total Credits  17

1 See the current list of approved Foundation courses on CLPS Cognitive Neuroscience page.  
2 See the current list of approved Electives on CLPS Cognitive Neuroscience page.  
3 See the current list of approved Seminars on the CLPS Cognitive Neuroscience page.  
4 See the current list of approved Laboratory courses on the CLPS Cognitive Neuroscience page.  
5 See sample Science courses sets on the CLPS Cognitive Neuroscience page.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
## Comparative Literature

The concentration in Comparative Literature enables students to study an illustrative range of literary topics and to develop a focused critical understanding of how cultures differ from one another and what those differences mean. Our courses provide opportunities to engage with literary works across linguistic and cultural boundaries, exploring the traditions and innovations of the literatures of the world.

In the spirit of Brown’s Open Curriculum, a concentration in Comparative Literature affords great academic freedom. Advanced literature courses from any literature department at Brown count for concentration credit. Any language—an ancient or modern—supported at Brown may form part of a Comparative Literature concentration program. All students take a course in literary theory and have the opportunity to complete a senior essay.

There are three concentration tracks and requirements:

- **Track 1: Comparative Literature in Two Languages**
- **Track 2: Comparative Literature in Three Languages**
- **Track 3: Literary Translation**

### Genre and Period Requirements for all concentrators:

- One course in each literary genre (poetry, narrative, and drama/film)
- Courses must cover at least three different historical periods (such as, Antiquity; Middle Ages; Renaissance/Early Modern; Enlightenment; Modern: 19th-21st centuries).

### Track 1: Concentration in Comparative Literature in two languages

#### Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COLT 1210</td>
<td>Introduction to the Theory of Literature</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>TWO literature courses taught above the 1000-level in the first chosen literature. (Courses may be taken in any literature department, and may fall under such courses codes as COLT, ENGL, FREN, HISP, CHIN, RUSS, GRMN, etc.)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>TWO literature courses taught above the 1000-level in the second chosen literature. (Courses may be taken in any literature department, and may fall under such courses codes as COLT, ENGL, FREN, HISP, CHIN, RUSS, GRMN, etc.)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>FIVE electives. Courses taught in Comparative Literature and other literature courses at any level (below or above 1000) may satisfy this requirement.</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td></td>
<td><strong>10</strong></td>
</tr>
</tbody>
</table>

#### Examples of courses that may fulfill the requirements, above, include but are not limited to the following. Students are encouraged to discuss class choices with their advisor.

- COLT 0510F Fidel Castro and Che Guevara, The Men and the Myths
- COLT 0510K The 1001 Nights
- COLT 0510P Reading the Renaissance
- COLT 0610D Rites of Passage
- COLT 0610Q Before Wikipedia
- COLT 0710C Introduction to Scandinavian Literature
- COLT 0710I New Worlds: Reading Spaces and Places in Colonial Latin America
- COLT 0710N A Comparative Introduction to the Literatures of the Americas
- COLT 0710X Fan Fiction
- COLT 0710Z Comedy from Athens to Hollywood
- COLT 0711H The Arabic Novel
- COLT 0711Q Writing Love in Korean Literature
- COLT 0810H How Not to Be a Hero
- COLT 0810I Tales and Talemakers of the Non-Western World
- COLT 0810L The Pursuit of Happiness

### Track 2: Concentration in Comparative Literature in three languages

#### Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COLT 1210</td>
<td>Introduction to the Theory of Literature</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>TWO literature courses taught above the 1000-level in the first chosen literature. (Courses may be taken in any literature department, and may fall under such courses codes as COLT, ENGL, FREN, HISP, CHIN, RUSS, GRMN, etc.)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>TWO literature courses taught above the 1000-level in the second chosen literature. (Courses may be taken in any literature department, and may fall under such courses codes as COLT, ENGL, FREN, HISP, CHIN, RUSS, GRMN, etc.)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>TWO literature courses taught above the 1000-level in the third chosen literature. (Courses may be taken in any literature department, and may fall under such courses codes as COLT, ENGL, FREN, HISP, CHIN, RUSS, GRMN, etc.)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>THREE electives. Courses taught in Comparative Literature and other literature courses at any level (below or above 1000) may satisfy this requirement.</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td></td>
<td><strong>10</strong></td>
</tr>
</tbody>
</table>

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Examples of courses that may fulfill the requirements, above, include but are not limited to the following. Students are encouraged to discuss class choices with their advisor.

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**Track 3: Concentration in Literary Translation**

**Requirements**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COLT 1210</td>
<td>Introduction to the Theory of Literature</td>
<td>1</td>
</tr>
<tr>
<td>Literary Translation (COLT 1710)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>At least one course in linguistics (including COLT 2720 Literary Translation and history of the language courses). This may be taken at any level.</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>At least one workshop in Literary Arts. This may be taken at any level.</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>TWO literature courses taught above the 1000-level in the first chosen literature. (Courses may be taken in any literature department, and may fall under such courses codes as COLT, ENGL, FREN, HISP, CHIN, RUSS, GRMN, etc.)</td>
<td>2</td>
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</tr>
<tr>
<td>TWO literature courses taught above the 1000-level in the second chosen literature. (Courses may be taken in any literature department, and may fall under such courses codes as COLT, ENGL, FREN, HISP, CHIN, RUSS, GRMN, etc.)</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>TWO electives. Courses taught in Comparative Literature and other literature courses at any level (below or above 1000) may satisfy this requirement.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A senior thesis, eligible for Honors, consisting of substantial work in translation with a critical introduction. Completing a thesis is required of all Track 3 students but does not guarantee departmental honors.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total Credits**

10

Examples of courses that may fulfill the requirements, above, include but are not limited to the following. Students are encouraged to discuss class choices with their advisor.

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Transfer of Credits:
Two courses per semester of study abroad may be applied to the concentration, up to a total of four courses (for two semesters abroad). A maximum of five courses from external venues (study abroad; transfer credits from other institutions, including summer study) may be applied to the concentration.

Joint or Double Concentration:
Joint or double concentration programs may also be arranged. Students may also combine a concentration in Comparative Literature with a teaching certificate in English or a modern language. A student interested in such a program should consult the advisor in the Education Department (http://www.brown.edu/academics/education/) and the advisor in Comparative Literature as early as possible (preferably by Semester V). In accordance with University policy, double concentrators are allowed a maximum overlap of two courses between concentrations.

Computational Biology
Computational biology involves the analysis and discovery of biological phenomena using computational tools, and the algorithmic design and analysis of such tools. The field is widely defined and includes foundations in computer science, applied mathematics, statistics, biochemistry, molecular biology, genetics, ecology, evolution, anatomy, neuroscience, and visualization.

Students may pursue a Bachelor of Arts or a Bachelor of Science. Students pursuing the ScB have the option of electing a concentration in Computational Biology with one of three focus areas: Computer Sciences, Biological Sciences, or Applied Mathematics & Statistics. Both programs require a senior capstone experience that pairs students and faculty in creative research collaborations.

Standard program for the A.B. degree

Prerequisites:
- MATH 0100 or MATH 0170
- BIOL 0200

General Core Requirements: Biology
- BIOL 0470
- BIOL 0280
- CHEM 0500

General Core Requirements: Chemistry
- CHEM 0330
- OR CHEM 0350

General Core Requirements: Computer Science
- CSCI 0111
- CSCI 0112 & CSCI 0200
- OR CSCI 0200 & CSCI 0150 & CSCI 0170

OR
- CSCI 0190 & CSCI 0200 & CSCI 0320 & CSCI 0330 & CSCI 1010

OR
- CSCI 0190
- OR CSCI 0200 & CSCI 0320 & CSCI 0330 & CSCI 1010

General Core Requirements: Probability & Statistics
Undergraduate Concentrations

APMA 1650  Statistical Inference I OR
CSCI 1450  Advanced Introduction to Probability for Computing and Data Science OR
MATH 1610  Probability

Comp Bio Core Course Requirements: 4
CSCI 1810  Computational Molecular Biology
APMA 1080  Inference in Genomics and Molecular Biology

AND two of the following:
CSCI 1820  Algorithmic Foundations of Computational Biology
CSCI 1470  Deep Learning
BIOL 1430  Foundations of Population Genetics
BIOL 1435  Computational Methods for Studying Demographic History with Molecular Data
BIOL 1465  Human Population Genomics
BIOL 1555  Methods in Informatics and Data Science for Health
CSCI 1420  Machine Learning
APMA 1690  Computational Probability and Statistics
APMA 1660  Statistical Inference II

Additional course with Director approval

Total Credits: 12

University Writing Requirement:
As part of Brown’s writing requirement, all students must demonstrate that they have worked on their writing both in their general studies and their concentration. There are a number of ways for Computational Biology concentrators to fulfill these requirements:
• Enrolling in an independent study: CSCI 1970, BIOL 1950, APMA 1970
• Writing an Honors Thesis
• Taking a “WRIT” course in the final two years

Capstone Experience
Students enrolled in the computational biology concentration will complete a research project in their senior year under faculty supervision. The themes of such projects evolve with the field and the technology, but should represent a synthesis of the various specialties of the program. The requirements are either one semester of reading and research with a CCMB Faculty member or approved advisor, or a 2000-level Computational Biology course.

Standard program for the Sc.B. degree

Prerequisites
MATH 0100  Single Variable Calculus, Part II (or equivalent) 1
or MATH 0170  Single Variable Calculus, Part II (Accelerated)
BIOL 0200  The Foundation of Living Systems (or equivalent) 1

General Core Course Requirements: Biology
BIOL 0470  Genetics (prerequisite BIOL 0200 or equivalent) 1
BIOL 0280  Biochemistry 1
or BIOL 0500  Cell and Molecular Biology

General Core Requirements: Chemistry
CHEM 0330  Equilibrium, Rate, and Structure 1
or CHEM 0350  Organic Chemistry I

General Core Requirements: Computer Science 2-4

CSCI 0111  Computing Foundations: Data OR
& CSCI 0112  and Computing Foundations: Program Design with Data Structures and Algorithms
& CSCI 0200

OR
CSCI 0200  Program Design with Data Structures and Algorithms OR
& CSCI 0150  and Introduction to Object-Oriented Programming and Computer Science
& CSCI 0170  and Computer Science: An Integrated Introduction

OR
CSCI 0190  Accelerated Introduction to Computer Science OR
& CSCI 0200  and Program Design with Data Structures and Algorithms
& CSCI 0320  and Introduction to Software Engineering
& CSCI 1010  and Introduction to Computer Systems and Theory of Computation

CSCI 0220  Introduction to Discrete Structures and Probability 1

General Core Requirements: Probability & Statistics
APMA 1650  Statistical Inference I 1
or CSCI 1450  Advanced Introduction to Probability for Computing and Data Science
or MATH 1610  Probability

General Core Requirements: Computational Biology
CSCI 1810  Computational Molecular Biology 1
APMA 1080  Inference in Genomics and Molecular Biology 1

Capstone Experience 1
BIOl 1950/1960  Directed Research/Independent Study
CSCI 1970  Individual Independent Study

Six courses in one of the following three tracks: 6

Computer Science Track:
Three of the following:
CSCI 1230  Introduction to Computer Graphics
CSCI 1270  Database Management Systems
CSCI 1410  Artificial Intelligence
CSCI 1420  Machine Learning
CSCI 1470  Deep Learning
CSCI 1550  Probabilistic Methods in Computer Science
CSCI 1570  Design and Analysis of Algorithms
or other Computer Science courses approved by the concentration advisor

Three of the following:
CSCI 0330  Introduction to Computer Systems OR
& CSCI 0320  or Introduction to Software Engineering
& CSCI 0320  or Introduction to Software Engineering
CSCI 1820  Algorithmic Foundations of Computational Biology
CSCI 1820  Algorithmic Foundations of Computational Biology
PHP 2620  Statistical Methods in Bioinformatics, I
APMA 1660  Statistical Inference II
BIOL 1430  Foundations of Population Genetics
BIOL 1435  Computational Methods for Studying Demographic History with Molecular Data
BIOL 1465  Human Population Genomics
APMA 1690  Computational Probability and Statistics

Biological Sciences track

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
At least four courses comprising a coherent theme in one of the following areas: Biochemistry, Ecology, Evolution, or Neurobiology. AND select two courses from the following:

**APMA 1660**  Statistical Inference II  
**APMA 1690**  Computational Probability and Statistics  
**BIOL 1430**  Foundations of Population Genetics  
**BIOL 1435**  Computational Methods for Studying Demographic History with Molecular Data  
**BIOL 1465**  Human Population Genomics  
**CSCI 1420**  Machine Learning  
**CSCI 1470**  Deep Learning  
**CSCI 1820**  Algorithmic Foundations of Computational Biology  
**PHP 2620**  Statistical Methods in Bioinformatics, I

**Applied Mathematics & Statistics Track:**

At least three courses from the following:

**APMA 1660**  Statistical Inference II  
**APMA 1690**  Computational Probability and Statistics  
**CSCI 1410**  Artificial Intelligence  
**APMA 0340 & APMA 0330**  Methods of Applied Mathematics II and Methods of Applied Mathematics I  
**APMA 0360 & APMA 0350**  Applied Partial Differential Equations I and Applied Ordinary Differential Equations  
**APMA 1070**  Quantitative Models of Biological Systems  
**BIOL 1430**  Foundations of Population Genetics  
**BIOL 1435**  Computational Methods for Studying Demographic History with Molecular Data  
**BIOL 1465**  Human Population Genomics  
**CSCI 1420**  Machine Learning  
**CSCI 1470**  Deep Learning  
**CSCI 1820**  Algorithmic Foundations of Computational Biology  
**PHP 2620**  Statistical Methods in Bioinformatics, I

**Total Credits**  **18-20**

**Honors:**

In order to be considered a candidate for honors, students will be expected to maintain an outstanding record, with no "Cs" in concentration courses and with a minimum of an "A-" average in concentration courses. In addition, students should take at least one semester, and are strongly encouraged to take 2 semesters, of reading and research with a CCMB faculty member or approved advisor. Students must submit to a public defense of their theses to be open to the CCMB community.

- Students seeking honors are advised to choose a Thesis Advisor prior to the end of their Junior year.
- Students must complete the Registration form for Comp Bio and submit it to CCMB@BROWN.EDU

Any deviation from these rules must be approved by the director of undergraduate studies, in consultation with the student's advisor.

**Computer Science**

Computer science is now a critical tool for pursuing an ever-broadening range of topics, from outer space to the workings of the human mind. In most areas of science and in many liberal arts fields, cutting-edge work depends increasingly on computational approaches. The undergraduate program at Brown is designed to combine breadth in practical and theoretical computer science with depth in specialized areas. These areas range from traditional topics, such as analysis of algorithms, artificial intelligence, databases, distributed systems, graphics, mobile computing, networks, operating systems, programming languages, robotics and security, to novel areas including games and scientific visualization.

Our requirements are built on a collection of pathways, each representing a well-defined area within computer science. Concentrators interested in particular areas can choose the courses included in particular pathways. Conversely, concentrators who are unsure of their area of interest but who have particularly enjoyed certain courses can choose pathways that include these concentrations. Students may not use more than two CSCI 1970 courses to complete the requirements for the Sc.B. and one CSCI 1970 course for the A.B. requirements.


**Requirements for the Standard Track of the Sc.B. degree**

**Prerequisites (0-3 courses)**

Calculus prerequisite: students must complete or place out of second semester calculus.

- MATH 0100  Single Variable Calculus, Part II  
  or MATH 0170  Single Variable Calculus, Part II (Accelerated)  
  or MATH 0190  Single Variable Calculus, Part II (Physics/Engineering)

**Concentration Requirements**

**Core-Computer Science:**

Select one of the following introductory course Series:

- **Series A**
  - CSCI 0150 & CSCI 0200  Introduction to Object-Oriented Programming and Computer Science and Program Design with Data Structures and Algorithms

- **Series B**
  - CSCI 0170 & CSCI 0200  Computer Science: An Integrated Introduction and Program Design with Data Structures and Algorithms

- **Series C**
  - CSCI 0190  Accelerated Introduction to Computer Science (and an additional CS course not otherwise used to satisfy a concentration requirement; this course may be CSCI 0200, an intermediate-level course, or an advanced course)

- **Series D**

**Thirteen more advanced courses.**

- # Two complete pathways (at least one core course from each)
  - # Each requires two 1000-level courses as well as one-to-three intermediate courses
  - # One of the courses used in one pathway must be a capstone course (defined below)
  - # The core and related courses used in one pathway may not overlap with those used in another

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
# 2000-level courses beyond those explicitly mentioned may also be used toward the concentration. They will be considered to be part of the same pathway as their thematically-related 1000-level courses.

♦♦ Additional intermediate courses so that a total of five are taken, with at least one from each of the three categories.

♦♦ One additional 1000-level course that is neither a core nor a related nor a graduate course for the pathways used above.

♦♦ No more than four arts, humanities, and social science oriented CS courses (currently CSCI 1250, 1280, 1370, 1800, 1805, and 1870) may be used for concentration credit.

### Intermediate Courses

ScB students must take at least one course from each intermediate course category to ensure they span all areas. In addition, they must take whatever intermediate courses they haven't yet taken that are required for their pathways.

#### Foundations

<table>
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<tr>
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<tr>
<td>CSCI 0220</td>
<td>Introduction to Discrete Structures and Probability</td>
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<tr>
<td>or MATH 1001</td>
<td>The Art of Writing Mathematics</td>
</tr>
<tr>
<td>or MATH 1530</td>
<td>Abstract Algebra</td>
</tr>
<tr>
<td>CSCI 1010</td>
<td>Theory of Computation</td>
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#### Mathematics

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<td>CSCI 0530</td>
<td>Coding the Matrix: An Introduction to Linear Algebra for Computer Science</td>
</tr>
<tr>
<td>or MATH 0520</td>
<td>Linear Algebra</td>
</tr>
<tr>
<td>or MATH 0540</td>
<td>Linear Algebra With Theory</td>
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<tr>
<td>CSCI 1450</td>
<td>Advanced Introduction to Probability for Computing and Data Science</td>
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<tr>
<td>or APMA 1650</td>
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<tr>
<td>or APMA 1655</td>
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<tr>
<td>MATH 0180</td>
<td>Multivariable Calculus</td>
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<tr>
<td>or MATH 0200</td>
<td>Multivariable Calculus (Physics/Engineering)</td>
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<td>or MATH 0350</td>
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#### Systems

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</tr>
<tr>
<td>or CSCI 0300</td>
<td>Fundamentals of Computer Systems</td>
</tr>
</tbody>
</table>

#### Pathways

Completing a pathway entails taking two courses in the pathway of which at least one is a core course for the pathway. One must also take the intermediate courses specified as part of the pathway. Certain graduate courses can also satisfy pathway requirements, see the CS Pathway page for more info: [http://cs.brown.edu/degrees/undergrad/concentrating-in-cs/concentration-handbook/](http://cs.brown.edu/degrees/undergrad/concentrating-in-cs/concentration-handbook/)

### SYSTEMS: studies the design, construction, and analysis of modern, multi-faceted computing systems

#### Core Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCI 1380</td>
<td>Distributed Computer Systems</td>
</tr>
<tr>
<td>or CSCI 1670</td>
<td>Operating Systems</td>
</tr>
<tr>
<td>or CSCI 1680</td>
<td>Computer Networks</td>
</tr>
</tbody>
</table>

#### Related Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCI 1260</td>
<td>Compilers and Program Analysis</td>
</tr>
<tr>
<td>CSCI 1270</td>
<td>Database Management Systems</td>
</tr>
<tr>
<td>or CSCI 1320</td>
<td>Creating Modern Web &amp; Mobile Applications</td>
</tr>
<tr>
<td>or CSCI 1600</td>
<td>Real-Time and Embedded Software</td>
</tr>
<tr>
<td>or CSCI 1650</td>
<td>Software Security and Exploitation</td>
</tr>
<tr>
<td>or CSCI 1660</td>
<td>Introduction to Computer Systems Security</td>
</tr>
<tr>
<td>or CSCI 1710</td>
<td>Logic for Systems</td>
</tr>
<tr>
<td>or CSCI 1730</td>
<td>Design and Implementation of Programming Languages</td>
</tr>
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#### Intermediate Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Topic</th>
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<tbody>
<tr>
<td>CSCI 0300</td>
<td>Fundamentals of Computer Systems</td>
</tr>
<tr>
<td>or CSCI 0330</td>
<td>Introduction to Computer Systems</td>
</tr>
<tr>
<td>CSCI 0220</td>
<td>Introduction to Discrete Structures and Probability</td>
</tr>
</tbody>
</table>

### SOFTWARE PRINCIPLES: studies the design, construction, and analysis of modern software systems

#### Core Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Topic</th>
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</thead>
<tbody>
<tr>
<td>CSCI 1260</td>
<td>Compilers and Program Analysis</td>
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<tr>
<td>or CSCI 1320</td>
<td>Creating Modern Web &amp; Mobile Applications</td>
</tr>
<tr>
<td>or CSCI 1600</td>
<td>Real-Time and Embedded Software</td>
</tr>
<tr>
<td>or CSCI 1710</td>
<td>Logic for Systems</td>
</tr>
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<td>or CSCI 1730</td>
<td>Design and Implementation of Programming Languages</td>
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<tbody>
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<td>Database Management Systems</td>
</tr>
<tr>
<td>or CSCI 1380</td>
<td>Distributed Computer Systems</td>
</tr>
<tr>
<td>or CSCI 1650</td>
<td>Software Security and Exploitation</td>
</tr>
<tr>
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<td>Computer Networks</td>
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<tr>
<td>or CSCI 1951T</td>
<td>CS for Social Change</td>
</tr>
<tr>
<td>or CSCI 1951X</td>
<td>Surveying VR Data Visualization Software for Research</td>
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<tr>
<td>CSCI 0220</td>
<td>Introduction to Discrete Structures and Probability</td>
</tr>
<tr>
<td>CSCI 0320</td>
<td>Introduction to Software Engineering</td>
</tr>
<tr>
<td>CSCI 0330</td>
<td>Introduction to Computer Systems (Data)</td>
</tr>
<tr>
<td>or CSCI 0300</td>
<td>Fundamentals of Computer Systems</td>
</tr>
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</table>

### DATA: Studies the management and use of large data collections

#### Core Courses

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>CSCI 1270</td>
<td>Database Management Systems</td>
</tr>
<tr>
<td>or CSCI 1420</td>
<td>Machine Learning</td>
</tr>
<tr>
<td>or CSCI 1951A</td>
<td>Data Science</td>
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#### Related Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Topic</th>
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</thead>
<tbody>
<tr>
<td>CSCI 1550</td>
<td>Probabilistic Methods in Computer Science</td>
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#### Intermediate Courses

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<tbody>
<tr>
<td>CSCI 0320</td>
<td>Introduction to Software Engineering</td>
</tr>
<tr>
<td>or CSCI 0330</td>
<td>Introduction to Computer Systems</td>
</tr>
<tr>
<td>or CSCI 0300</td>
<td>Fundamentals of Computer Systems</td>
</tr>
</tbody>
</table>

### ARTIFICIAL INTELLIGENCE / MACHINE LEARNING: studies the theory and application of algorithms for making decisions and inferences from rules and data

#### Core Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Topic</th>
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</thead>
<tbody>
<tr>
<td>CSCI 1410</td>
<td>Artificial Intelligence</td>
</tr>
<tr>
<td>or CSCI 1420</td>
<td>Machine Learning</td>
</tr>
<tr>
<td>or CSCI 1430</td>
<td>Computer Vision</td>
</tr>
<tr>
<td>or CSCI 1460</td>
<td>Computational Linguistics</td>
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</table>

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
<table>
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<tr>
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<tbody>
<tr>
<td>CSCI 1470</td>
<td>Deep Learning</td>
</tr>
<tr>
<td>or CSCI 1850</td>
<td>Deep Learning in Genomics</td>
</tr>
<tr>
<td>or CSCI 191R</td>
<td>Introduction to Robotics</td>
</tr>
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**Related Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>CSCI 1440</td>
<td>Algorithmic Game Theory</td>
</tr>
<tr>
<td>or CSCI 1550</td>
<td>Probabilistic Methods in Computer Science</td>
</tr>
<tr>
<td>or CSCI 191A</td>
<td>Data Science</td>
</tr>
<tr>
<td>or CSCI 191C</td>
<td>Designing Humanity Centered Technology</td>
</tr>
<tr>
<td>or APMA 1740</td>
<td>Recent Applications of Probability and Statistics</td>
</tr>
<tr>
<td>or ENGN 1610</td>
<td>Image Understanding</td>
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<th>Course Code</th>
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<tbody>
<tr>
<td>CSCI 1450</td>
<td>Advanced Introduction to Probability for Computing and Data Science</td>
</tr>
<tr>
<td>or APMA 1650</td>
<td>Statistical Inference I</td>
</tr>
<tr>
<td>or APMA 1655</td>
<td>Honors Statistical Inference I</td>
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<tr>
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<td>Introduction to Cryptography and Computer Security</td>
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<td>or CSCI 1550</td>
<td>Probabilistic Methods in Computer Science</td>
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<tr>
<td>or CSCI 1710</td>
<td>Logic for Systems</td>
</tr>
<tr>
<td>or CSCI 1810</td>
<td>Computational Molecular Biology</td>
</tr>
<tr>
<td>or CSCI 1820</td>
<td>Algorithmic Foundations of Computational Biology</td>
</tr>
<tr>
<td>or CSCI 1950H</td>
<td>Computational Topology</td>
</tr>
<tr>
<td>or CSCI 1951G</td>
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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>CSCI 1010</td>
<td>Theory of Computation</td>
</tr>
<tr>
<td>CSCI 1450</td>
<td>Advanced Introduction to Probability for Computing and Data Science</td>
</tr>
<tr>
<td>or APMA 1650</td>
<td>Statistical Inference I</td>
</tr>
<tr>
<td>or APMA 1655</td>
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<th>Course Code</th>
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</thead>
<tbody>
<tr>
<td>CSCI 1510</td>
<td>Introduction to Cryptography and Computer Security</td>
</tr>
<tr>
<td>or CSCI 1650</td>
<td>Software Security and Exploitation</td>
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</tbody>
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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>CSCI 1320</td>
<td>Creating Modern Web &amp; Mobile Applications</td>
</tr>
<tr>
<td>or CSCI 1380</td>
<td>Distributed Computer Systems</td>
</tr>
<tr>
<td>or CSCI 1670</td>
<td>Operating Systems</td>
</tr>
<tr>
<td>or CSCI 1680</td>
<td>Computer Networks</td>
</tr>
<tr>
<td>or CSCI 1710</td>
<td>Logic for Systems</td>
</tr>
<tr>
<td>or CSCI 1730</td>
<td>Design and Implementation of Programming Languages</td>
</tr>
<tr>
<td>or CSCI 1800</td>
<td>Cybersecurity and International Relations</td>
</tr>
<tr>
<td>or CSCI 1805</td>
<td>Computers, Freedom and Privacy</td>
</tr>
<tr>
<td>or CSCI 1951L</td>
<td>Blockchains and Cryptocurrencies</td>
</tr>
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**Intermediate Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>CSCI 0330</td>
<td>Introduction to Computer Systems</td>
</tr>
<tr>
<td>or CSCI 0300</td>
<td>Fundamentals of Computer Systems</td>
</tr>
<tr>
<td>CSCI 0220</td>
<td>Introduction to Discrete Structures and Probability (Or Probability and Statistics (see options below))</td>
</tr>
<tr>
<td>or CSCI 1450</td>
<td>Advanced Introduction to Probability for Computing and Data Science</td>
</tr>
<tr>
<td>or APMA 1650</td>
<td>Statistical Inference I</td>
</tr>
<tr>
<td>or APMA 1655</td>
<td>Honors Statistical Inference I</td>
</tr>
</tbody>
</table>

**Theory: students the foundations of models and algorithms for computing in various contexts**

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<tr>
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<tr>
<td>or APMA 1655</td>
<td>Honors Statistical Inference I</td>
</tr>
</tbody>
</table>

**VISUAL COMPUTING: studies the creation, interaction, and analysis of images and visual information, including animation and games**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCI 1600</td>
<td>Real-Time and Embedded Software</td>
</tr>
</tbody>
</table>

**Core Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCI 1230</td>
<td>Introduction to Computer Graphics</td>
</tr>
<tr>
<td>or CSCI 1280</td>
<td>Intermediate 3D Computer Animation</td>
</tr>
<tr>
<td>or CSCI 1290</td>
<td>Computational Photography</td>
</tr>
<tr>
<td>or CSCI 1300</td>
<td>User Interfaces and User Experience</td>
</tr>
<tr>
<td>or CSCI 1370</td>
<td>Virtual Reality Design for Science</td>
</tr>
<tr>
<td>or CSCI 1430</td>
<td>Computer Vision</td>
</tr>
<tr>
<td>or CSCI 1950T</td>
<td>Advanced Animation Production</td>
</tr>
<tr>
<td>or CSCI 1951T</td>
<td>Surveying VR Data Visualization Software for Research</td>
</tr>
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</table>

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCI 1600</td>
<td>2D Game Engines</td>
</tr>
<tr>
<td>or CSCI 1670</td>
<td>Deep Learning</td>
</tr>
<tr>
<td>or CSCI 1950N</td>
<td>2D Game Engines</td>
</tr>
<tr>
<td>or CSCI 1950U</td>
<td>Topics in 3D Game Engine Development</td>
</tr>
<tr>
<td>or CSCI 1951V</td>
<td>Hypertext/Hypermedia: The Web Was Not the Beginning and the Web Is Not the End</td>
</tr>
<tr>
<td>or CLPS 1520</td>
<td>Computational Vision</td>
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</table>

**Intermediate Courses**

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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>CSCI 0320</td>
<td>Introduction to Software Engineering</td>
</tr>
<tr>
<td>or CSCI 0330</td>
<td>Introduction to Computer Systems</td>
</tr>
<tr>
<td>MATH 0520</td>
<td>Linear Algebra</td>
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<tr>
<td>or MATH 0540</td>
<td>Linear Algebra With Theory</td>
</tr>
<tr>
<td>or CSCI 0530</td>
<td>Coding the Matrix: An Introduction to Linear Algebra for Computer Science</td>
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**Computer Architecture: studies the design, construction, and analysis of computer architecture and hardware**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGN 1630</td>
<td>Digital Electronics Systems Design</td>
</tr>
<tr>
<td>or ENGN 1640</td>
<td>Design of Computing Systems</td>
</tr>
<tr>
<td>or ENGN 1650</td>
<td>Embedded Microprocessor Design</td>
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<td>CSCI 1600</td>
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<td>Introduction to Computer Graphics</td>
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<td>or CSCI 1320</td>
<td>Creating Modern Web &amp; Mobile Applications</td>
</tr>
<tr>
<td>or CSCI 1360</td>
<td>Human Factors in Cybersecurity</td>
</tr>
<tr>
<td>or CSCI 1600</td>
<td>Real-Time and Embedded Software</td>
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<tr>
<td>or CSCI 1951A</td>
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<td>or CSCI 1951I</td>
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<td>or CSCI 1951T</td>
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</tr>
<tr>
<td>or CSCI 1951V</td>
<td>Hypertext/Hypermedia: The Web Was Not the Beginning and the Web Is Not the End</td>
</tr>
<tr>
<td>or CSCI 1952B</td>
<td>Responsible Computer Science in Practice</td>
</tr>
<tr>
<td>or ENGN 1931I</td>
<td>Design of Robotic Systems</td>
</tr>
<tr>
<td>or VISA 1720</td>
<td>Physical Computing</td>
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<tr>
<td>or CSCI 1850</td>
<td>Deep Learning in Genomics</td>
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<tr>
<td>or CLPS 1520</td>
<td>Computational Vision</td>
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</table>

**Requirements for the Standard Track of the A.B. degree**

**Prerequisites (0-3 courses)**

Students must complete or place out of second semester calculus.

- MATH 0100 Single Variable Calculus, Part II
- or MATH 0190 Single Variable Calculus, Part II (Physics/Engineering)
- or MATH 0170 Single Variable Calculus, Part II (Accelerated)

**Concentration Requirements (9 courses)**

Core Computer Science:

Select one of the following series:

**Series A**

- CSCI 0150 & CSCI 0200 Introduction to Object-Oriented Programming and Computer Science and Program Design with Data Structures and Algorithms

**Series B**

- CSCI 0170 & CSCI 0200 Computer Science: An Integrated Introduction and Program Design with Data Structures and Algorithms

**Series C**

- CSCI 0190 Accelerated Introduction to Computer Science (and an additional CS course not otherwise used to satisfy a concentration requirement; this course may be CSCI 0200, an intermediate-level course, or an advanced course)

**Series D**

- CSCI 0111 & CSCI 0112 & CSCI 0200 Computing Foundations: Data Organization and Program Design with Data Structures and Algorithms

Seven more advanced courses.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Additional intermediate courses so that a total of three are taken with at least one in each of two different intermediate-course categories (see the ScB requirements for a listing of these categories).

One additional 1000-level course that is neither a core nor a related course for the pathways used above.

Of the remaining two courses, at least one must be at the 1000-level or higher (i.e., one may be an intermediate course not otherwise used as part of the concentration). One course may be an approved 1000-level course from another department. Unless explicitly stated in a pathway, such non-CS courses may not be used as part of pathways.

No more than two arts, humanities, and social science oriented CS courses (currently CSCI 1250, 1280, 1370, 1800, 1805, and 1870) may be used for concentration credit.

1 Students wishing to go directly from CSCI 0111 to CSCI 0200 (without CSCI 0112) will need to successfully complete additional exercises to receive an instructor override code for CSCI 0200.

Requirements for the Professional Track of the both the Sc. B. and A.B. degrees.

The requirements for the professional track include all those of the standard track, as well as the following:

Students must complete full-time professional experiences doing work that is related to their concentration programs, totaling 2-6 months, whereby each internship must be at least one month in duration in cases where students choose to do more than one internship experience. Such work is normally done at a company, but may also be at a university under the supervision of a faculty member. Internships that take place between the end of the fall and the start of the spring semesters cannot be used to fulfill this requirement.

On completion of each professional experience, the student must write and upload to ASK a reflective essay about the experience addressing the following prompts, to be approved by the student’s concentration advisor:

- Which courses were put to use in your summer’s work? Which topics, in particular, were important?
- In retrospect, which courses should you have taken before embarking on your summer experience? What are the topics from these courses that would have helped you over the summer if you had been more familiar with them?
- Are there topics you should have been familiar with in preparation for your summer experience, but are not taught at Brown? What are these topics?
- What did you learn from the experience that probably could not have been picked up from course work?
- Is the sort of work you did over the summer something you would like to continue doing once you graduate? Explain.
- Would you recommend your summer experience to other Brown students? Explain.

Honors

Honors candidates must have earned A’s or S-with-distinction in 2/3 (rounding up) of the courses used towards the concentration, excluding introductory-sequence courses (CS courses numbered 0200 or below) and the calculus prerequisite (unless course is also used as an intermediate math course in CS requirements).

Computer Science-Economics

The joint Computer Science-Economics concentration exposes students to the theoretical and practical connections between computer science and economics. It prepares students for professional careers that incorporate aspects of economics and computer technology and for academic careers conducting research in areas that emphasize the overlap between the two fields. Concentrators may choose to pursue either the A.B. or the Sc.B. degree. While the A.B. degree allows students to explore the two disciplines by taking advanced courses in both departments, its smaller number of required courses is compatible with a liberal education. The Sc.B. degree achieves greater depth in both computer science and economics by requiring more courses, and it offers students the opportunity to creatively integrate both disciplines through a design requirement. If you are interested in declaring a concentration in Computer Science-Economics, please refer to this page (https://economics.brown.edu/academics/undergraduate/concentrations/declaring/) for more information regarding the process. For more information about the CS Pathways, see this (https://cs.brown.edu/degrees/undergrad/concentrating-in-cs/concentration-requirements-2020/pathways-for-undergraduate-and-masters-students/) page.


Prerequisites (3 courses):

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 0100</td>
<td>Single Variable Calculus, Part II</td>
</tr>
<tr>
<td>MATH 0520</td>
<td>Linear Algebra</td>
</tr>
<tr>
<td>or MATH 0540</td>
<td>Linear Algebra With Theory</td>
</tr>
<tr>
<td>or CSCI 0530</td>
<td>Coding the Matrix: An Introduction to Linear Algebra for Computer Science</td>
</tr>
</tbody>
</table>

Required Courses: 17 courses: 8 Computer Science, 8 Economics, and a Capstone

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCI 1450</td>
<td>Advanced Introduction to Probability for Computing and Data Science</td>
</tr>
<tr>
<td>or APMA 1650</td>
<td>Statistical Inference I</td>
</tr>
<tr>
<td>or APMA 1655</td>
<td>Honors Statistical Inference I</td>
</tr>
</tbody>
</table>

Select one of the following Series:

Series A

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCI 0150 &amp; CSCI 0200</td>
<td>Introduction to Object-Oriented Programming and Computer Science and Program Design with Data Structures and Algorithms</td>
</tr>
</tbody>
</table>

Series B

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCI 0170 &amp; CSCI 0200</td>
<td>Computer Science: An Integrated Introduction and Program Design with Data Structures and Algorithms</td>
</tr>
</tbody>
</table>

Series C

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCI 0190</td>
<td>Accelerated Introduction to Computer Science (and an additional CS course not otherwise used to satisfy a concentration requirement; this course may be CSCI 0200, an intermediate-level CS course, or a 1000-level course.)</td>
</tr>
</tbody>
</table>

Series D

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
</table>

Two of the following intermediate courses, one of which must be math-oriented and one systems-oriented.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCI 0220</td>
<td>Introduction to Discrete Structures and Probability (math)</td>
</tr>
<tr>
<td>CSCI 0320</td>
<td>Introduction to Software Engineering (systems)</td>
</tr>
<tr>
<td>CSCI 0330</td>
<td>Introduction to Computer Systems (systems)</td>
</tr>
<tr>
<td>or CSCI 0300</td>
<td>Fundamentals of Computer Systems</td>
</tr>
<tr>
<td>CSCI 1010</td>
<td>Theory of Computation (math)</td>
</tr>
</tbody>
</table>

A pair of 1000-level CS courses that, along with the intermediate courses and math courses, satisfy one of the CS Pathways, as described for the CSCI ScB.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
An additional CS course that is either at the 1000-level or is an intermediate course not already used to satisfy concentration requirements. CSCI 1450 may not be used to satisfy this requirement.

ECON 1130 Intermediate Microeconomics (Mathematical) 1
ECON 1210 Intermediate Macroeconomics 1
ECON 1630 Mathematical Econometrics I 1

Three courses from the "mathematical economics" group (CSCI 1951K can be counted as one of them, if it has not been used to satisfy the computer science requirements of the concentration and if the student has taken either ECON 1470 or ECON 1870):

ECON 1170 Welfare Economics and Social Choice Theory
ECON 1225 Advanced Macroeconomics: Monetary, Fiscal, and Stabilization Policies
ECON 1255 Unemployment: Models and Policies
ECON 1470 Bargaining Theory and Applications
ECON 1490 Designing Internet Marketplaces
ECON 1545 Topics in Macroeconomics, Development and International Economics
ECON 1640 Mathematical Econometrics II
ECON 1660 Big Data
ECON 1670 Advanced Topics in Econometrics
ECON 1680 Machine Learning, Text Analysis, and Econometrics
ECON 1750 Investments II
ECON 1805 Economics in the Laboratory
ECON 1820 Theory of Behavioral Economics
ECON 1850 Theory of Economic Growth
ECON 1860 The Theory of General Equilibrium
ECON 1870 Game Theory and Applications to Economics

Two additional 1000-level Economics courses excluding 1620, 1960, 1970 5

One capstone course in either CS or Economics: a one-semester course, normally taken in the student’s last semester undergraduate year, in which the student (or group of students) use a significant portion of their undergraduate education, broadly interpreted, in studying some current topic (preferably at the intersection of computer science and economics) in depth, to produce a culminating artifact such as a paper or software project. A senior thesis, which involved two semesters of work, may count as a capstone.

Total Credits 17

1 APMA 1650 or APMA 1655 may be used in place of CSCI 1450 in CS pathway requirements. However, concentration credit will be given for only one of APMA 1650, APMA 1655, and CSCI 1450.
2 CSCI 1010 may be used either as a math-oriented intermediate course or as an advanced course. CSCI 1010 was formerly known as CSCI 0510: They are the same course and hence only one may be taken for credit.
4 Or ECON 1110 with permission. For students matriculating at Brown in Fall 2021 or later, note that if ECON 1110 is used, then one additional course from the mathematical-economics group will be required.
5 Students may apply, at most, one Economics course whose number is in the range of 1000 to 1099 toward the concentration. Note that ECON 1620, ECON 1960, and ECON 1970 (independent study) cannot be used for concentration credit. However, 1620 and 1960 can be used for university credit and up to two 1970s may be used for university credit.

---

Standard Program for the A.B. degree:

Prerequisites (3 courses):

<table>
<thead>
<tr>
<th>Course</th>
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</tr>
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<tbody>
<tr>
<td>MATH 0100</td>
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</tr>
<tr>
<td>or CSCI 0530</td>
<td>Coding the Matrix: An Introduction to Linear Algebra for Computer Science</td>
</tr>
</tbody>
</table>

ECON 0110 Principles of Economics

Required Courses: 13 courses: 7 Computer Science and 6 Economics

<table>
<thead>
<tr>
<th>Course</th>
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</tr>
</thead>
<tbody>
<tr>
<td>CSCI 1450</td>
<td>Advanced Introduction to Probability for Computing and Data Science</td>
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<td>or APMA 1650</td>
<td>Statistical Inference I</td>
</tr>
<tr>
<td>or APMA 1655</td>
<td>Honors Statistical Inference I</td>
</tr>
</tbody>
</table>

Select one of the following series:

1. Series A
   - CSCI 0150 Introduction to Object-Oriented Programming and Computer Science and Introduction to Algorithms and Data Structures
2. Series B
   - CSCI 0170 Computer Science: An Integrated Introduction
3. Series C
   - CSCI 0190 Accelerated Introduction to Computer Science (and an additional CS course not otherwise used to satisfy a concentration requirement; this course may be CSCI 0200, an intermediate-level course, or a 1000-level course)
4. Series D
   - CSCI 0111 Computing Foundations: Data and Computer Science: An Integrated Introduction

Total of two intermediate courses, one of which must be math-oriented and one systems-oriented:

Two additional CS courses; at least one must be at the 1000-level. The other must either be at the 1000-level or be an intermediate course not already used to satisfy concentration requirements. CSCI 1450 may not be used to satisfy this requirement.

<table>
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<tr>
<th>Course</th>
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<tbody>
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</tr>
<tr>
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</tr>
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</tr>
<tr>
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<td>Theory of Computation (math)</td>
</tr>
</tbody>
</table>

Two additional CS courses; at least one must be at the 1000-level. The other must either be at the 1000-level or be an intermediate course not already used to satisfy concentration requirements. CSCI 1450 may not be used to satisfy this requirement.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 1130</td>
<td>Intermediate Microeconomics (Mathematical) 1</td>
</tr>
<tr>
<td>ECON 1210</td>
<td>Intermediate Macroeconomics 1</td>
</tr>
<tr>
<td>ECON 1630</td>
<td>Mathematical Econometrics I 1</td>
</tr>
<tr>
<td>Three courses from the &quot;mathematical-economics&quot; group: 2</td>
<td></td>
</tr>
<tr>
<td>ECON 1170</td>
<td>Welfare Economics and Social Choice Theory</td>
</tr>
<tr>
<td>ECON 1225</td>
<td>Advanced Macroeconomics: Monetary, Fiscal, and Stabilization Policies</td>
</tr>
<tr>
<td>ECON 1255</td>
<td>Unemployment: Models and Policies</td>
</tr>
<tr>
<td>ECON 1470</td>
<td>Bargaining Theory and Applications</td>
</tr>
<tr>
<td>ECON 1490</td>
<td>Designing Internet Marketplaces</td>
</tr>
</tbody>
</table>

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
ECON 1545  Topics in Macroeconomics, Development and International Economics
ECON 1640  Mathematical Econometrics II
ECON 1660  Big Data
ECON 1670  Advanced Topics in Econometrics
ECON 1680  Machine Learning, Text Analysis, and Economics
ECON 1750  Investments II
ECON 1805  Economics in the Laboratory
ECON 1820  Theory of Behavioral Economics
ECON 1850  Theory of Economic Growth
ECON 1860  The Theory of General Equilibrium
ECON 1870  Game Theory and Applications to Economics
or any graduate Economics course 3

Total Credits 13

1 Or ECON 1110 with permission. For students matriculating at Brown in Fall 2021 or later, note that if ECON 1110 is used, then one additional course from the mathematical-economics group will be required.
2 CSCI 1951K can be counted as one of them, if it has not been used to satisfy the computer science requirements of the concentration and if the student has taken either ECON 1470 or ECON 1870.
3 Note that ECON 1620, ECON 1800, and ECON 1790 (independent study) cannot be used for concentration credit. However, 1620 and 1900 can be used for university credit and up to two 1970s may be used for university credit.

Honors
Students who meet stated requirements are eligible to write an honors thesis in their senior year. Students should consult the listed honors requirements of whichever of the two departments their primary thesis advisor belongs to, at the respective departments’ websites. If the primary thesis advisor belongs to Economics (Computer Science), then students must have a reader in the Computer Science (respectively, Economics) department.

Professional Track
The requirements for the professional track include all those of the standard track, as well as the following:

Students must complete full-time professional experiences doing work that is related to their concentration programs, totaling 2-6 months, whereby each internship must be at least one month in duration in cases where students choose to do more than one internship experience. Such work is normally done at a company, but may also be at a university under the supervision of a faculty member. Internships that take place between the end of the fall and the start of the spring semesters cannot be used to fulfill this requirement.

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• Which courses were put to use in your summer’s work? Which topics, in particular, were important?
• In retrospect, which courses should you have taken before embarking on your summer experience? What are the topics from these courses that would have helped you over the summer if you had been more familiar with them?
• Are there topics you should have been familiar with in preparation for your summer experience, but are not taught at Brown? What are these topics?
• What did you learn from the experience that probably could not have been picked up from course work?
• Is the sort of work you did over the summer something you would like to continue doing once you graduate? Explain.
• Would you recommend your summer experience to other Brown students? Explain.

Concentration Core (6 courses including the Senior Concentration Seminar)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COST 0100</td>
<td>Introduction to Contemplative Studies</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 0200</td>
<td>The Foundation of Living Systems</td>
<td>1</td>
</tr>
<tr>
<td>CLPS 0200</td>
<td>Human Cognition</td>
<td></td>
</tr>
<tr>
<td>CLPS 0500</td>
<td>Perception and Mind</td>
<td></td>
</tr>
<tr>
<td>NEUR 0010</td>
<td>The Brain: An Introduction to Neuroscience</td>
<td></td>
</tr>
</tbody>
</table>

Two introductory science courses addressing the biological, psychological, and neurological functioning of the human body/mind complex with health implications, and how contemplative practices affect it.

Select one from the following list:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>COST 0200</td>
<td>Meditation and the Brain</td>
</tr>
<tr>
<td>COST 1020</td>
<td>Cognitive Neuroscience of Meditation</td>
</tr>
<tr>
<td>COST 1080</td>
<td>Meditation, Mindfulness and Health (PHP 1880)</td>
</tr>
</tbody>
</table>

Two humanities courses that present important themes that can emerge from bringing a Contemplative Studies perspective to the study of contemplative religious traditions and to the philosophical analysis of the key questions of human existence.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTH 1240</td>
<td>Religion and Culture</td>
</tr>
<tr>
<td>CLAS 0990</td>
<td>Karma and Free Will: The Self in Indian Philosophy</td>
</tr>
<tr>
<td>CLAS 1120G</td>
<td>The Idea of Self</td>
</tr>
<tr>
<td>COST 0040</td>
<td>Great Contemplative Traditions of Asia</td>
</tr>
<tr>
<td>or RELS 0040</td>
<td>Great Contemplative Traditions of Asia</td>
</tr>
<tr>
<td>COST 0145</td>
<td>Karma, Rebirth and Liberation: Life and Death in South Asian Religions</td>
</tr>
<tr>
<td>or RELS 0145</td>
<td>Karma, Rebirth and Liberation: Life and Death in South Asian Religions</td>
</tr>
<tr>
<td>COST 0410</td>
<td>Engaged Buddhism</td>
</tr>
<tr>
<td>COST 0420</td>
<td>The Theory and Practice of Buddhist Meditation</td>
</tr>
<tr>
<td>COST 0450</td>
<td>Stages of the Contemplative Path</td>
</tr>
<tr>
<td>PHIL 0010</td>
<td>The Place of Persons</td>
</tr>
<tr>
<td>PHIL 0015</td>
<td>Introduction to Philosophy</td>
</tr>
<tr>
<td>PHIL 0510</td>
<td>Psychology and Philosophy of Happiness</td>
</tr>
<tr>
<td>PHIL 1800</td>
<td>Philosophy of Mind</td>
</tr>
<tr>
<td>PHIL 1825</td>
<td>Consciousness</td>
</tr>
<tr>
<td>RELS 0056</td>
<td>Spiritual But Not Religious: Making Spirituality in America</td>
</tr>
<tr>
<td>RELS 0065</td>
<td>On Being Human: Religious and Philosophical Conceptions of Self</td>
</tr>
<tr>
<td>RELS 1370B</td>
<td>Philosophy of Mysticism</td>
</tr>
</tbody>
</table>

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Track Requirements (6 additional courses Including a Capstone Course)

Students must complete either a Science or Humanities track in addition to the concentration core.

Science Track

The Science track in Contemplative Studies gives concentrators a foundational understanding of the scientific methods used to investigate the biological, psychological, and neurological effects of contemplative practice and their potential implications on physical and mental health both for individuals and for the general public. Students will be taught how to critique current research as well as how to develop, operationalize, and test hypotheses related to contemplative practice. Students will become well-versed in how to study first-person reports related to the phenomenology of contemplative experience as a foundation for formulating third-person tests of the effects of practice on brain function and behavior. The Contemplative Studies Science Track trains students to investigate these types of questions not only for academic scholarship, but also to provide a method of self-inquiry that can be used to augment any area of life.

Five thematic science courses, including a Capstone Course, drawn primarily from BIOL, COST, NEUR, CLPS, and PHP, at least one of which must include laboratory work and two of which must be 1000-level; and one Statistics course for a total of six courses.

The Capstone Course is intended to be a culmination of the students’ concentration in which they will bring to bear what their interests have been in developing their focused work in the program. The Capstone course can be either:

a. A one semester Independent Reading and Research course, either COST 1910 or 1920 OR BIOL 1950 or 1960, depending on the semester; OR

b. A special project done within an existing Contemplative Studies core or related course at the 1000-level in which the student brings to bear the larger concerns of her concentration on a problem or issue within the course. It is expected that such Capstone research papers will be more substantial than a term paper.

| BIOL 0280 | Biochemistry (lab) |
| BIOL 0470 | Genetics (lab) |
| BIOL 0530 | Principles of Immunology |
| BIOL 0800 | Principles of Physiology (lab) |
| BIOL 1880 | Comparative Biology of the Vertebrates |
| CLPS 0700 | Social Psychology |
| CLPS 0710 | The Psychology and Philosophy of Happiness |
| CLPS 1193 | Laboratory in Genes and Behavior |
| CLPS 1194 | Sleep and Chronobiology Research |
| CLPS 1291 | Computational Methods for Mind, Brain and Behavior |
| CLPS 1400 | The Neural Bases of Cognition |
| CLPS 1490 | Functional Magnetic Resonance Imaging: Theory and Practice |
| CLPS 1492 | Computational Cognitive Neuroscience |
| CLPS 1570 | Perceptual Learning |
| CLPS 1590 | Visualizing Vision |
| CLPS 1791 | Laboratory in Social Cognition |
| COST 0200 | Meditation and the Brain |
| COST 1020 | Cognitive Neuroscience of Meditation |
| COST 1080 | Meditation, Mindfulness and Health (PHP 1880) |

| NEUR 1020 | Principles of Neurobiology |
| NEUR 1030 | Neural Systems |
| NEUR 1540 | Neurobiology of Learning and Memory |
| NEUR 1600 | Experimental Neurobiology |
| NEUR 1940I | Neural Correlates of Consciousness |
| PHP 1600 | Obesity in the 21st Century: Causes, Consequences and Countermeasures |
| PHP 1920 | Social Determinants of Health |

Others with approval

| APMA 0650 | Essential Statistics |
| APMA 1650 | Statistical Inference I |
| BIOL 0495 | Statistical Analysis of Biological Data |
| CLPS 0900 | Statistical Methods |
| PHP 1501 | Essentials of Data Analysis |

Humanities Track

The Humanities track explores the origin and development of contemplative practices within specific religious, cultural, and historical contexts and gives students a foundation in the Philosophy of Mind relevant to the scientific study of contemplative practice. Students will choose a concentration program that includes three intermediate and three advanced seminars drawn from the two areas below. While it is recommended that students focus primarily on one of these two areas, the precise balance of the individual concentration program for each student will be established with the concentration advisor when the student applies to enter the concentration, normally in their fourth semester of study.

Six courses, including a Capstone Course, from across the two areas below:

The Capstone Course is intended to be a culmination of the students’ concentration in which they will bring to bear what their interests have been in developing their focused work in the program. The Capstone course can be either:

a. A one semester Independent Reading and Research course, either COST 1910 or 1920 OR BIOL 1950 or 1960, depending on the semester; OR

b. A special project done within an existing Contemplative Studies core or related course at the 1000-level in which the student brings to bear the larger concerns of her concentration on a problem or issue within the course. It is expected that such Capstone research papers will be more substantial than a term paper.

Contemplative Religious Traditions

| CLAS 0210Y | The Philosophy of Classical Indian Yoga |
| CLAS 0820 | Epics of India |
| CLAS 0850 | Mythology of India |
| CLAS 0990 | Karma and Free Will: The Self in Indian Philosophy |
| CLAS 0995 | India’s Classical Performing Arts |
| CLAS 1140 | Classical Philosophy of India |
| CLAS 1160 | Love and Devotion, Power and Poverty: India’s Literary Classics |
| COST 0145 | Karma, Rebirth and Liberation: Life and Death in South Asian Religions |
| COST 0420 | The Theory and Practice of Buddhist Meditation |
| COST 0530 | Laozi and the Daodejing |
| COST 0535 | Self Transformation and Transcendence in Later Daoist Contemplative Traditions |
| COST 0550 | Tibetan Buddhism and the West |
| COST 0855 | The Bhagavad Gita (CLAS 0855) |
| COST 1420 | The Contemplative Foundations of Classical Daoism |

Others with approval

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
### The Philosophy of Mind

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>COST 1520</td>
<td>Consciousness (PHIL 1520)</td>
</tr>
<tr>
<td>PHIL 0110</td>
<td>Ancient Greek Philosophy</td>
</tr>
<tr>
<td>PHIL 0510</td>
<td>Psychology and Philosophy of Happiness</td>
</tr>
<tr>
<td>PHIL 1230</td>
<td>Kant: The Critique of Pure Reason</td>
</tr>
<tr>
<td>PHIL 1240</td>
<td>Kant's Moral Philosophy</td>
</tr>
<tr>
<td>PHIL 1430</td>
<td>Moral Theories</td>
</tr>
<tr>
<td>PHIL 1705</td>
<td>Epistemology</td>
</tr>
<tr>
<td>PHIL 1735</td>
<td>Metaphysics</td>
</tr>
<tr>
<td>PHIL 1755</td>
<td>Philosophy of Science</td>
</tr>
<tr>
<td>PHIL 1800</td>
<td>Philosophy of Mind</td>
</tr>
<tr>
<td>UNIV 1520</td>
<td>The Shaping of World Views</td>
</tr>
<tr>
<td>Others with approval</td>
<td></td>
</tr>
</tbody>
</table>

### Honors Requirement

Students with a minimum GPA of 3.5 in the concentration may apply for entrance into the Honors program in the middle of their sixth semester. To apply, students submit a proposal for a senior thesis project describing the work to be undertaken and its relevance to the field of Contemplative Studies, along with a copy of their academic transcript. Students accepted into Honors must complete the required Capstone seminar, UNIV 1010, and enroll in an additional semester of independent study in their advisor’s department. Students must complete the desired thesis, present the results of their study in a format talk or poster session, open to all interested faculty and students.

### Critical Native American and Indigenous Studies

#### Requirements for the Critical Native American and Indigenous Studies Concentration

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETHN 1200K</td>
<td>Introduction to American Indian Studies</td>
</tr>
<tr>
<td>Four (4) courses at the 1000-level related to a focus area of study (determined by the student, in consultation with the NAIS DUS and faculty advisor), also preparing to prepare for the capstone requirement; these courses may be from different breadth areas.</td>
<td></td>
</tr>
<tr>
<td>Four (4) Elective Courses from across the Concentration Breadth Areas</td>
<td></td>
</tr>
<tr>
<td>Concentration breadth areas are:</td>
<td></td>
</tr>
<tr>
<td>1) Creative Expressions (Arts, Literature and Language)</td>
<td></td>
</tr>
<tr>
<td>2) History, Politics and Policy Issues</td>
<td></td>
</tr>
<tr>
<td>3) Language and Identity</td>
<td></td>
</tr>
<tr>
<td>4) Systems of Knowledge and Belief: Fundamentals of Indigenous Living, Society and Wellness (Environment, Medicine, Biology, Health, Psychology, Public Health, Philosophy, Religion)</td>
<td></td>
</tr>
</tbody>
</table>

These courses must be at the 1000-level.

At least two breadth areas must be included in the overall course of study, with a minimum of two courses in a breadth area outside of the focus area of study (if that is connected to only one breadth area); electives provide an opportunity for expansion beyond the focus area.

No more than two Independent Study Project (ISP or GIS) courses counting towards fulfillment of the concentration.

Courses that are not NAIS designated (in the list of concentration courses) may count toward the concentration if agreed upon by the department faculty advisor and NAIS DUS and closely connected to areas of study.

**NAIS 1900 Critical NAIS Capstone Course**

**Total Credits**: 10

Double Concentrations: Students concentrating in Critical Native American and Indigenous Studies and another discipline may count no more than two courses towards both concentrations.

Transfer credits: Credits for courses taken at other institutions may be applied to the Critical NAIS concentration following review by the department faculty advisor and the NAIS DUS. No more than four (4) transfer courses can be applied toward this A.B.

### Language Study:

Through a focus on the Language and Identity Breadth Area, students may include one year (two courses) of language study (determined by the student and faculty advisor, which could be met through a DISP or a GISP course). The language may be an Indigenous one but does not need to be: rather, it should align closely with the goals and interests of the concentrator and could contribute to research and learning goals through access to records, manuscripts and other documents not in English. Students not focusing on Language and Identity may also be interested in language study and are encouraged to include that in their Concentration if it contributes to their goals and objectives.

### Honors Thesis or Project (Optional):

Students may choose to complete their Critical NAIS concentration with honors by completing an honors thesis or project, in addition to other course requirements and the 10 credits needed to complete the concentration. To successfully complete Honors in the Critical NAIS concentration, a student must:

- outline a viable research project
- have the support of at least one faculty advisor
- submission and approval of a thesis or project proposal to the faculty advisor and NAIS DUS.

#### Thesis Requirements:

- Good academic standing at the University and in the concentration
- Completion of a thesis based on extended independent research under the guidance of a Brown University faculty advisor(s)
- Enrollment in two thesis preparation courses (with thesis advisor) over the final year of undergraduate study (in the fall and spring semesters of the final year)
- Submission of an Honors Thesis/Project outline and application for honors designation within the Critical NAIS concentration (to the NAIS DUS and faculty advisor(s)) at the end of the third year of study or by Sept. 30 of the final year. A final proposal of a five-page, double-spaced project description along with a bibliography of relevant sources should be submitted following approval of the thesis/project outline.
- Completed thesis submitted to the NAIS Faculty Director and thesis faculty advisor no later than the third week of April (or May graduation) or the first Monday of December (for winter graduation).

### Academic Requirements:

- At least two consecutive semesters in good academic standing at the time of application (submission of honors prospectus)
The Honors Thesis must earn an A (or a recommendation for Honors) from two faculty readers, in addition to fulfilling all other concentration requirements.

If a student completes an honors thesis that is not conferred honors status, the two semesters of research and writing would constitute completion of the Capstone course (NAIS 1900).

### Development Studies

Development Studies is an interdisciplinary concentration whose mission is to provide students with the knowledge, critical perspectives and skills they need to engage with the issues of economic and social development, especially as they relate to the Global South. The concentration is grounded in the social sciences – anthropology, sociology, political science, and economics – but it also heavily draws from history, art, and other disciplines in the humanities. The requirements are designed with three goals in mind: first, provide concentrators a solid foundation in the question of development; second, allow concentrators to develop expertise in a specific region that is of interest to them; third, give concentrators access to a wide range of courses in a large number of disciplines of interest to them. Concentrators are encouraged to do their own original field research. During the senior year, concentrators complete a capstone experience tailored to their interests (http://brown.edu/academics/development-studies/about/what-ds-capstone/) in some aspect of international development. Towards this end, they benefit from extensive faculty and peer support. The Development Studies concentration will only accept new declarations through the class of 2023. Students in any class year can learn more about the new concentration (https://watson.brown.edu/iapa/about/faqs/) in International and Public Affairs: Development Track.

### Requirements

The Development Studies concentration will be available to students graduating through the class of 2023.

**10 Courses + Language + Capstone**

**CORE**

All core courses must be taken prior to senior year

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOC 1620</td>
<td>Globalization and Social Conflict</td>
</tr>
<tr>
<td>POLS 1240</td>
<td>Politics, Markets and States in Developing Countries</td>
</tr>
<tr>
<td>ANTH 0110</td>
<td>Anthropology and Global Social Problems: Environment, Development, and Governance</td>
</tr>
<tr>
<td>Seminar in Sociology of Development</td>
<td>1</td>
</tr>
<tr>
<td>SOC 1871D</td>
<td>Sophomore Seminar in Sociology of Development (Pre-requisites: sophomore or junior standing, and completion of SOC 1620, POLS 1240, or ANTH 0110)</td>
</tr>
</tbody>
</table>

**Development Economics - Choose ONE of the following:**

1. (ECON 0510 for students with little to no Econ background, ECON 1510 for students with strong Econ backgrounds or double-concentrating in Econ)

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 0510</td>
<td>Development and the International Economy (Prerequisite: ECON 0110, or AP Microeconomics 4 and AP Macroeconomics 4, or IB HL Economics 6)</td>
</tr>
<tr>
<td>ECON 1510</td>
<td>Economic Development (Prerequisite: ECON 1110 or ECON 1130; and APMA 1650 or ECON 1620 or ECON 1630)</td>
</tr>
</tbody>
</table>

**Research Methods and Design**

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IAPA 1500</td>
<td>Methods in Development Research (junior year)</td>
</tr>
</tbody>
</table>

**Regional Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Two courses that focus on the same region of the developing world. Should complement the student's foreign language.</td>
</tr>
</tbody>
</table>

**Elective Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Three courses chosen from a list of pre-approved electives or by special approval.</td>
</tr>
</tbody>
</table>

**Foreign Language**

Equivalent of three full years of university study or above.

**Senior Capstone**

- a. Thesis option: DEVL 1980 (fall senior year) and DEVL 1990 (spring senior year), or
- b. Capstone seminar option: approved senior seminar in Development Studies, with seminar-length paper requirement.

See the Development Studies website (http://brown.edu/academics/development-studies/) for the list of pre-approved elective courses.

### Early Modern World

The Concentration in Early Modern World promotes interdisciplinary and multidisciplinary approaches to historical cultures around the world between the waning of feudalism and the arrival of global industrial capitalism, from the 1300s to the end of the 1800s. Students take courses in a wide range of departments and with faculty affiliated with the Center for the Study of the Early Modern World. Concentrators have the opportunity to be mentored by faculty, staff at the special collections libraries at Brown, and graduate students working on contiguous topics. Students are invited to take advantage of this breadth of offerings to enhance their understanding of the period, as well as to gain a sense of the uses, limitations, and interrelationships of particular disciplinary approaches.

The Center for the Study of the Early Modern World promotes interdisciplinary and multidisciplinary approaches to historical cultures around the world between the waning of feudalism and the arrival of global industrial capitalism, from the 1300s to the end of the 1800s. Characterized by new global aspirations as well as new modes of domination, resistance, and conflict, this period yielded significant technological transformations and cultural inventions whose study contributes to the historical understanding of the modern world.

Students take courses in a wide range of departments in the humanities and social sciences and from faculty affiliated with the Center. Students are invited to take advantage of this breadth of offerings in order to enhance their understanding of the period as well as to gain a sense of the uses, limitations, and interrelationships of particular disciplinary approaches.

**Requirements**

Concentrators are required to take a minimum of eight courses. These include the following:

- Three courses on early modern topics in one field in which the student has primary interest or training, e.g., literature, history of art and architecture, or history.
- Three courses related to the early modern period chosen from two other fields.
- A senior project. The senior project constitutes the capstone for all concentrators. Examples of possible senior projects include a senior thesis (roughly equivalent to a senior seminar paper), the staging of an early modern play, the performance of early modern music, or an exhibition. The final project will be developed in consultation with two faculty advisors who work closely with the student. Credit is granted through registration for Independent Study in the department for which the topic of research lies.
- Other relevant courses of the student's choosing.

In addition, the student must be able to demonstrate a reading knowledge of a relevant modern or ancient language other than English. This language requirement does not count as one of the eight courses.

Under the supervision of the director of the program, students may choose courses from the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIAA 0062</td>
<td>Dutch and Flemish Art: Visual Culture of the Netherlands in the Seventeenth Century</td>
</tr>
</tbody>
</table>

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Brown University 211

ENGL 0100C  Altered States
ENGL 0150D  Shakespeare’s Present Tense
HIST 0286A  History of Medicine I: Medical Traditions in the Old World Before 1700
ENGL 0310A  Shakespeare
ENGL 0310E  Shakespeare: The Screenplays
HIAA 0550  Painters, Builders, and Bankers in Early Modern Italy
HIAA 0560  Constructing the Eternal City: Popes and Pilgrims in Early Modern Rome
HIAA 0630  Cultural History of the Netherlands in a Golden Age and a Global Age
COLT 0710I  New Worlds: Reading Spaces and Places in Colonial Latin America
FREN 0720A  De l’Amour courtois au désir postmoderne
POBS 0910  On the Dawn of Modernity
ITAL 0981  When Leaders Lie: Machiavelli in International Context
FREN 1030A  L’univers de la Renaissance: XVe et XVIe siècles
FREN 1030B  The French Renaissance: The Birth of Modernity?
FREN 1040A  Pouvoirs de la scène: le théâtre du XVIIe siècle
FREN 1040B  Le Grand Siècle à l’écran
FREN 1040D  Molière et son monde
ENGL 1310A  Firing the Canon: Early Modern Women’s Writing
ENGL 1310H  The Origins of American Literature
ENGL 1310J  Imagining the Individual in Renaissance England
ENGL 1310O  Restoration and Early Eighteenth-Century Literature
ENGL 1360K  Shakespeare and Company
ENGL 1360P  Shakespearean Tragedy
ENGL 1360S  Between Gods and Beasts: The Renaissance Ovid
ENGL 1360Z  Shakespeare and Embodiment
ITAL 1400J  The Many Faces of Casanova
COLT 1410P  Shakespeare
HIAA 1560A  Italy and the Mediterranean
ITAL 1580  Word, Image and Power in Early Modern Italy
HIAA 1600I  Collections and Visual Knowledge in Early Modern Europe: 1400-1800
JUDS 1751  Jews Between Christians and Muslims in the Early Modern World
HIST 1825H  Science, Medicine and Technology in the 17th Century
ENGL 1950A  Form and Feeling in Renaissance Poetry
HIST 1964A  Age of Impostors: Fraud, Identification, and the Self in Early Modern Europe
HIST 1974M  Early Modern Globalization
EMOW 1980  Independent Study in EMOW
LATN 2000A  Senecan Tragedy
FREN 2130E  Corps et esprits libertins
FREN 2130F  Façons d’aimer: Discourses of Sexuality in Early Modern France
HISP 2160G  Don Quixote: Contexts and Constructions
ENGL 2360O  Irony and Satire
ENGL 2360P  Thinking with Romance in the Renaissance
ENGL 2360S  Alternative Miltons
HISP 2520I  Sor Juana Inés de la Cruz in Her Literary Context
ITAL 2550  Gender Matters

**Liberal Learning**

This concentration develops aesthetic awareness, close reading skills, collaborative cultural understanding, facility with symbolic languages, historical awareness as well as speaking and writing skills.

**Honors**

Interested and eligible students petition to write a thesis and the faculty chooses the Honors group for that year from the applications, making every effort to accommodate all eligible proposals. Selection is based upon the quality of the application, the preparedness of the student to undertake the project, and the availability of appropriate advisors for the subject.

Students accepted in the Honors program sign up for EMOW 1980 in the Fall and again in the Spring, with the section number of their advisor (REMS 1980 will become EMOW 1980 as of Fall 2019). Students must meet regularly with their advisors and second readers throughout the year according to a schedule determined by each student and advisor. Final drafts of the thesis (which will be about 35 pages in length, not counting bibliography and visual or other supporting materials) will be due to the advisor and second reader on April 1 of the Spring semester. Comments will be returned to the students for final polishing and corrections at that point. Students will receive Honors when both their primary advisor and their second reader have provided written statements in support of the finished project. The finished paper, which should be a polished and revised, edited, professional work of original research, will be made available to the entire Early Modern World faculty for comments. There will be a public presentation of the Honors work at the end of the Spring semester.

Students planning a December graduation will not be eligible for the Honors Thesis program, but they are welcome to work out other ways to pursue projects of independent interest in consultation with an academic advisor.

Students wishing to write an honors thesis must have an A average in the concentration, which means that they will not have received more than one “B” or “S” in any course used for the concentration. Classes taken S/NC may be considered as qualifying the student for Honors if they are marked “S with distinction,” meaning that had the student taken the course for a grade, the grade would have been an “A.” It is advisable for them to have taken at least one class with the person who will advise the thesis, and have already written a research paper before choosing to undertake this year-long writing project. Honors students are strongly encouraged not to take more than 4 classes either semester of their senior year—the Honors class being considered one of the four classes.

**Honors Application Process**

Applications are due to the Director of Center for the Study of the Early Modern World in mid-April of the student's junior year. Each application shall consist of:

1. A very brief (one or two paragraph) cover letter identifying the most appropriate advisor and second readers, and stating also the student’s preparedness for the project. Second readers may be professors who work in areas related to the topic, or in some very special cases (and with the advisor’s approval) may be practitioners with whom the student already worked closely, for example.
2. A two-page double-spaced abstract stating and explaining the topic (subject and argument) of the research to be undertaken, written as clearly as possible.
3. A one-page working bibliography of the most relevant books and major articles to be consulted for the project.
4. A current résumé.
5. A printout of the most recent transcript.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
East Asian Studies

East Asian Studies is a multidisciplinary concentration designed for students wishing to attain reasonable fluency in Chinese, Japanese, or Korean with specialized exposure to East Asian subjects. It serves students with two types of interests: those who aim to pursue active professional careers related to the East Asian region; and those who want to pursue graduate study in the humanities or social sciences with particular emphasis on China, Japan or Korea. Students in East Asian Studies will gain language proficiency and familiarity with East Asia through advanced courses in a variety of disciplines. Concentrators are strongly encouraged, but not required, to study in East Asia for one or two semesters. The concentration requires students to demonstrate a basic proficiency in Chinese, Japanese, or Korean.

The Language Requirement

The concentration requires students to demonstrate a basic proficiency in Chinese, Japanese, or Korean. For the purposes of the concentration, proficiency is determined to be consistent with successful completion of the Department's third-year course sequence in Chinese, Japanese, or Korean (0500-0600), or equivalent. Native speakers of these languages may, for example, demonstrate competency such that language courses may be unnecessary. Department language instructors may also determine that course work completed at one of the language-intensive study abroad programs attended by our undergraduates is comparable to courses offered at Brown. Up to three upper level (700-999) may count as electives for concentration credit.

Note that we do not equate completion of third-year Chinese, Japanese, or Korean with fluency in these languages. Rather, we believe that students who have demonstrated the skills associated with third-year Chinese, Japanese, or Korean have acquired a foundational understanding of the languages' grammar, vocabularies, and conversational patterns, such that they are able to make themselves understood in everyday situations, and to understand both spoken and written communication.

For the purposes of the concentration, language courses through the third-year are treated as an accompanying requirement.

Language Prerequisites (demonstrating proficiency through the third-year or 0600 level in one of the three languages below)

<table>
<thead>
<tr>
<th>Chinese</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CHIN 0100</td>
<td>Basic Chinese</td>
<td>Basic Chinese</td>
</tr>
<tr>
<td>&amp; CHIN 0200</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHIN 0300</td>
<td>Intermediate Chinese</td>
<td>Intermediate Chinese</td>
</tr>
<tr>
<td>&amp; CHIN 0400</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHIN 0350</td>
<td>Elementary to Intermediate Chinese for Advanced Beginners</td>
<td>Advanced Chinese for Heritage Learners</td>
</tr>
<tr>
<td>&amp; CHIN 0450</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHIN 0500</td>
<td>Advanced Modern Chinese I</td>
<td>Advanced Modern Chinese I</td>
</tr>
<tr>
<td>&amp; CHIN 0600</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Japanese</td>
<td></td>
<td></td>
</tr>
<tr>
<td>JAPN 0100</td>
<td>Basic Japanese</td>
<td>Basic Japanese</td>
</tr>
<tr>
<td>&amp; JAPN 0200</td>
<td></td>
<td></td>
</tr>
<tr>
<td>JAPN 0300</td>
<td>Intermediate Japanese</td>
<td>Intermediate Japanese</td>
</tr>
<tr>
<td>&amp; JAPN 0400</td>
<td></td>
<td></td>
</tr>
<tr>
<td>JAPN 0500</td>
<td>Advanced Japanese I</td>
<td>Advanced Japanese I</td>
</tr>
<tr>
<td>&amp; JAPN 0600</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Korean</td>
<td></td>
<td></td>
</tr>
<tr>
<td>KREA 0100</td>
<td>Korean</td>
<td>Korean</td>
</tr>
<tr>
<td>&amp; KREA 0200</td>
<td></td>
<td></td>
</tr>
<tr>
<td>KREA 0300</td>
<td>Intermediate Korean</td>
<td>Intermediate Korean</td>
</tr>
<tr>
<td>&amp; KREA 0400</td>
<td></td>
<td></td>
</tr>
<tr>
<td>KREA 0500</td>
<td>Advanced Korean</td>
<td>Advanced Korean</td>
</tr>
<tr>
<td>&amp; KREA 0600</td>
<td></td>
<td></td>
</tr>
<tr>
<td>KREA 0912</td>
<td>Business Korean</td>
<td></td>
</tr>
</tbody>
</table>

Electives

The concentration requires that students complete a total of eight electives tied to their course of study, which may be defined in linguistic, chronological, thematic, or cultural terms. Students should choose their courses with the following three requirements in mind.

- **Focus Requirement:** In order to ensure intellectual coherence and focus in the concentration, at least three of the eight electives must focus on the geographic region associated with the student's language study/expertise (including expertise demonstrated in lieu of coursework). For example, a concentrator studying Japanese language, or who has demonstrated competency in Japanese to fulfill the departmental language requirement, should take at least three courses focusing on Japan.

- **EAST Requirement:** At least three of the eight electives must be East Asian Studies (EAST) courses at any level; Chinese (CHIN), Japanese (JAPN), or Korean (KREA) courses at the 1000-level and above may also count toward this requirement.

- **Breadth Requirement:** At least one of the eight electives must focus on an East Asian country or culture other than those associated with the language the student is using to satisfy the concentration’s language requirement. A concentrator studying Chinese, for example, must choose at least one course that focuses on Korea and/or Japan.

- **Senior Seminar Requirement:** At least one of the eight elective courses must be an advanced research seminar, taken in the senior year.

As is common for interdisciplinary concentrations, a wide range of courses, including many taught by faculty in other departments, may be counted toward the concentration. These include courses offered by East Asian Studies faculty, faculty with courtesy appointments in the Department, and courses with a significant focus on East Asia offered in such disciplines as American Studies, Art History, Economics, International Relations, and many others.

Sample Electives offered by East Asian Studies

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EAST 0304</td>
<td>Words on Things: Literature and Material Culture in Early Modern China</td>
</tr>
<tr>
<td>EAST 0307</td>
<td>China Through the Lens: History, Cinema, and Critical Discourse</td>
</tr>
<tr>
<td>EAST 0402</td>
<td>Japan's Floating World</td>
</tr>
<tr>
<td>EAST 0534</td>
<td>Patriots, Communists, and traitors in Modern Korea ¹</td>
</tr>
<tr>
<td>EAST 1501</td>
<td>Korean Culture and Film</td>
</tr>
</tbody>
</table>

¹ China-centric
² Japan-centric
³ Korea-centric
⁴ East Asia-centric

For additional elective choices, visit http://brown.edu/academics/east-asian-studies/courses/more-course-offerings.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Advanced Research Seminars

At least one of the eight elective courses must be an advanced research seminar, taken in the senior year. The research seminar will normally provide students with the opportunity to develop a project or paper focusing on one or more of their areas of inquiry within the concentration. Students are strongly encouraged to find ways to incorporate the use of Chinese, Japanese or Korean language materials in their research and learning in these courses. Courses falling into this category include the East Asian Studies 1950 series as well as designated seminars offered by faculty in such departments as History, Religious Studies, and Comparative Literature among others. The Department will provide a list of pre-approved advanced seminars every semester. Students wishing to add courses to that list must submit their requests in writing to the Director of Undergraduate Studies at the start of the semester.

Sample advanced seminars offered by East Asian Studies

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EAST 1931</td>
<td>Market Economy, Popular Culture, and Mass Media in Contemporary China</td>
</tr>
<tr>
<td>EAST 1942</td>
<td>Queer Japan: Culture, History and Sexuality</td>
</tr>
</tbody>
</table>

Honors

East Asian Studies offers qualified students, in their senior year, the opportunity to undertake a sustained research and writing project that, ideally, will result not merely in a long term paper, but in a piece of original scholarship. To enroll in the Honors Program, the student must be a senior East Asian Studies concentrator, and have earned an A or an A with Distinction in the majority of courses for the concentration. Candidates for Honors are required to have developed a competence in an East Asian language sufficient to use East Asian language materials in carrying out their research. Students must also successfully obtain the support of at least two faculty members who will agree to serve as primary and secondary advisors for the thesis. Prospective writers submit a thesis prospectus, brief bibliography, and completed application forms (with signatures), ordinarily late in the student’s six semester, to the Director of Undergraduate Studies, who provides the final permission to proceed. Synopses of successful thesis proposals will be distributed to Department faculty.

Thesis writers enroll in advisor-specific sections of the thesis-writing course EAST 1980 (Fall) and EAST 1981 (Spring), meet regularly with their advisors over the course of both semesters, and submit final versions of their theses to the Department in mid-April. Advisors and students are required to provide updates of their progress to the Director of Undergraduate Studies at regular intervals.

The completed thesis is evaluated for Honors by the thesis director and by a second reader. In case of a difference of judgment between the two readers, a third opinion may be sought. The awarding of Honors in East Asian Studies will occur only if the Honors Thesis receives a final grade of A. If an A is not received, the student will receive academic credit (EAST 1980-81). Students are notified in mid-May whether the Department has recommended the awarding of Honors. Copies of readers’ comments are provided to the student.

All graduating concentrators will present the results of their senior theses in the department’s Senior Project Forum. The Forum will usually take place at the end of the spring semester, but may also occur at the end of the fall semester to accommodate mid-year graduates.

Double Concentrations

Students who are interested in developing a double concentration, including East Asian Studies as one of the two concentrations, should bear in mind that normally no more than two courses may be double-counted toward satisfying the course requirements of either of the two concentration programs involved.

Study Abroad

Concentrators are strongly encouraged, but not required, to study in East Asia for one or two semesters during their undergraduate years. Course credits earned abroad are generally transferable to Brown. However, a maximum of three courses taken abroad, of genuine intellectual substance and significantly related to East Asian Studies, may be considered for concentration credit.

Summary of requirements:

- Language study through the level of 0600 or the equivalent of Chinese, Japanese, or Korean
- Eight elective courses
  - Focus Requirement: In order to ensure intellectual coherence and focus in the concentration, at least three of the eight electives must focus on the geographic region associated with the student’s language study/expertise (including expertise demonstrated in lieu of coursework). For example, a concentrator studying Japanese language, or who has demonstrated competency in Japanese to fulfill the departmental language requirement, should take at least three courses focusing on Japan.
  - At least three of the eight must be East Asian Studies (EAST) courses at any level or Chinese (CHIN), Japanese (JAPN), or Korean (KREA) courses at the 1000-level and above.
  - At least one of the eight electives must focus on an East Asian country or culture other than those associated with the language the student is using to satisfy the concentration’s language requirement. A concentrator studying China, for example, would choose at least one course that focuses on Korea and/or Japan.
  - At least one of the eight must be an advanced research seminar, taken in the senior year.

- EAST 1980 (Senior Thesis, Semester 1)- EAST 1981 (Senior Thesis, Semester 2) for Honors candidates only

Economics

Economics is the study of how individuals, businesses, and governments allocate resources to satisfy their objectives. The study of economics helps students understand markets, firms, financial organizations, and public debate about economic policy, including taxation, government expenditure, trade, globalization, health, and welfare. The concentration in Economics prepares students for graduate study in fields such as business and law, for graduate study leading to teaching and research in economics, and can be a stepping-stone to employment in business, finance, non-profit, and government organizations. Students may choose the standard concentration, the business track, or the public policy track, all of which have a corresponding professional track. If you are interested in declaring a concentration in Economics, please refer to this page (https://economics.brown.edu/academics/undergraduate/concentrations/declaring/) for more information regarding the process.

Students are required to begin with ECON 0110, an introductory course that stresses current economic issues, and the concepts and principles of economic analysis. Intermediate level courses in microeconomics (ECON 1110 or ECON 1130), macroeconomics (ECON 1210), and econometrics (ECON 1620 followed by ECON 1629 or ECON 1630) round out the list of foundation courses for the concentration. Economics concentrators must also fulfill a math requirement (ECON 0170).

The economics department sponsors a number of concentration options. The most popular is the standard economics concentration, described below. The standard concentration has an optional Business Economics track, as well as a Public Policy track, both described below. Three additional concentration options are administered jointly with other departments and are described separately under their respective titles. They are the concentrations in applied mathematics–economics, mathematical-economics, and computer science–economics. The first two are especially recommended for students interested in graduate study in economics.

Standard Economics Concentration

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 0110</td>
<td>Principles of Economics</td>
<td>1</td>
</tr>
<tr>
<td>ECON 0170</td>
<td>Essential Mathematics for Economics</td>
<td>1</td>
</tr>
<tr>
<td>or MATH 0100</td>
<td>Single Variable Calculus, Part II</td>
<td></td>
</tr>
<tr>
<td>or a higher-level math course.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECON 1110</td>
<td>Intermediate Microeconomics</td>
<td>1</td>
</tr>
<tr>
<td>or ECON 1130</td>
<td>Intermediate Microeconomics (Mathematical)</td>
<td></td>
</tr>
</tbody>
</table>
ECON 1210  Intermediate Macroeconomics 1
ECON 1620  Introduction to Econometrics 1
or MATH 1620  Mathematical Statistics
or APMA 1650  Statistical Inference I
or APMA 1655  Honors Statistical Inference I
ECON 1629  Applied Research Methods for Economists 1
or ECON 1630  Mathematical Econometrics I
At least five additional 1000-level Economics courses. 3  5

Total Credits  11

1 Students who place out of ECON 0110 on the basis of qualifying scores on the AP, IB, or A-level exams must take an additional 1000-level course (6 instead of 5).
2 Students can satisfy the mathematics requirement with qualifying scores on the AP, IB, or A-level exams (but not the math department's self placement exam). Note that certain advanced economics courses may impose additional math prerequisites.
3 Students may apply, at most, one Economics course whose number is in the range of 1000 to 1099 toward the concentration. Note that ECON 1960 (thesis course) does not count toward the concentration.

Business Economics Track
ECON 0110  Principles of Economics 1  1
ECON 0170  Essential Mathematics for Economics 1
or MATH 0100  Single Variable Calculus, Part II
or a higher level math course
ECON 0710  Financial Accounting 1
ECON 1110  Intermediate Microeconomics 1
or ECON 1130  Intermediate Microeconomics (Mathematical)
ECON 1210  Intermediate Macroeconomics 1
ECON 1420  Industrial Organization 2  1
ECON 1620  Introduction to Econometrics 1
or APMA 1650  Statistical Inference I
or APMA 1655  Honors Statistical Inference I
or MATH 1620  Mathematical Statistics
ECON 1629  Applied Research Methods for Economists 1
or ECON 1630  Mathematical Econometrics I
ECON 1710  Investments I  1
ECON 1720  Corporate Finance 1
Two Business Economics electives from the following list:  2
ECON 1090  Introduction to Game Theory
ECON 1310  Labor Economics
ECON 1400  The Economics of Mass Media
ECON 1450  Economic Organizations and Economic Systems
ECON 1465  Antitrust and Competition
ECON 1470  Bargaining Theory and Applications
ECON 1490  Designing Internet Marketplaces
ECON 1540  International Trade
ECON 1550  International Finance
ECON 1660  Big Data
ECON 1730  Venture Capital, Private Equity, and Entrepreneurship
ECON 1740  Mathematical Finance
ECON 1750  Investments II
ECON 1760  Financial Institutions
ECON 1780  Advanced Topics in Corporate Finance
ECON 1820  Theory of Behavioral Economics
ECON 1830  Behavioral Finance

ECON 1870  Game Theory and Applications to Economics 12

Total Credits  12

1 Students who place out of ECON 0110 on the basis of qualifying scores on the AP, IB, or A-level exams must take a sixth 1000-level Economics elective (which need not come from the Business Economics group). Note that at most one economics elective in the 1000–1099 range may be applied towards the concentration.
2 Or Econ 1460, if previously taken (it is not being offered in the near future).
3 Students can satisfy the mathematics requirement with qualifying scores on the AP, IB, or A-levels exams (but not the Math department's self placement exam). Note the certain advanced economics courses may impose additional math prerequisites.
4 Students may apply, at most, one Economics course whose number is in the range of 1000 to 1099 toward the concentration. Note that ECON 1960 (thesis course) does not count toward the concentration.

Public Policy Track
ECON 0110  Principles of Economics 1
ECON 0170  Essential Mathematics for Economics 2
or MATH 0100  Single Variable Calculus, Part II
ECON 1110  Intermediate Microeconomics 1
or ECON 1130  Intermediate Microeconomics (Mathematical)
ECON 1210  Intermediate Macroeconomics 1
ECON 1620  Introduction to Econometrics 3
ECON 1629  Applied Research Methods for Economists 1
or ECON 1630  Mathematical Econometrics I
Five Public Policy Electives from the list below:  5
ECON 1000  Using Big Data to Solve Economic and Social Problems
ECON 1070  Race, Crime, and Punishment in America
ECON 1255  Unemployment: Models and Policies
ECON 1310  Labor Economics
ECON 1340  Economics of Global Warming
ECON 1350  Environmental Economics and Policy
ECON 1355  Environmental Issues in Development Economics
ECON 1360  Health Economics
ECON 1370  Race and Inequality in the United States
ECON 1385  Intergenerational Poverty in America
ECON 1390  Inequality of Income, Wealth, and Health in the United States
ECON 1410  Urban Economics
ECON 1420  Industrial Organization
ECON 1430  The Economics of Social Policy
ECON 1440  The Economic Analysis of Political Behavior
ECON 1480  Public Economics
ECON 1500  Current Global Macroeconomic Challenges
ECON 1520  Culture, History and Comparative Development
ECON 1530  Health, Hunger and the Household in Developing Countries
ECON 1540  International Trade
ECON 1550  International Finance
ECON 1560  Economic Growth
ECON 1570  The Economics of Latin Americans
ECON 1600  Education, the Economy and School Reform

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Interdisciplinary requirement. Two courses outside of the economics department that relate to better understanding the implementation and/or evaluation of public policies (may be below or above 1000-level). Several departments offer such courses, and availability varies from year to year. Some pre-approved options are

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFRI 1920</td>
<td>Health Inequality in Historical Perspective</td>
</tr>
<tr>
<td>CLPS 0220</td>
<td>Making Decisions</td>
</tr>
<tr>
<td>CLPS 0700</td>
<td>Social Psychology</td>
</tr>
<tr>
<td>IAPA 0110</td>
<td>Introduction to Public Policy</td>
</tr>
<tr>
<td>PHP 0310</td>
<td>Health Care in the United States</td>
</tr>
<tr>
<td>PHP 0330</td>
<td>Public Health Policy</td>
</tr>
<tr>
<td>PHP 0850</td>
<td>Fundamentals of Epidemiology</td>
</tr>
<tr>
<td>POLS 0010</td>
<td>Introduction to the American Political Process</td>
</tr>
<tr>
<td>POLS 1050</td>
<td>Ethics and Public Policy</td>
</tr>
<tr>
<td>POLS 1823Z</td>
<td>Gender and Public Policy</td>
</tr>
<tr>
<td>SOC 1330</td>
<td>Remaking the City</td>
</tr>
<tr>
<td>URBN 0210</td>
<td>The City: An Introduction to Urban Studies</td>
</tr>
</tbody>
</table>

Students may also request advisor permission for other courses.

A capstone project. This can be satisfied in different ways: (a) the capstone is automatically fulfilled if one of the public policy electives completed is designated as a capstone course (see the list of capstone courses on the economics department website); or (b) a capstone project is otherwise arranged and completed for a public policy elective; or (c) an honors thesis is completed, under the guidelines of honors in the economics concentration. In cases (a) and (b), a capstone form must be submitted to the department. 4

Total Credits: 13

1 Students who place out of ECON 0110 on the basis of qualifying scores on the AP, IB, or A-level exams must take a sixth 1000-level Economics elective (which need not come from the Public Policy group). Note that at most one economics elective in the 1000-1099 range may be applied towards the concentration.

2 Students can satisfy the mathematics requirement with qualifying scores on the AP, IB, or A-levels exams (but not the Math department’s self placement exam). Note the certain advanced economics courses may impose additional math prerequisites.

3 APMA 1650, APMA 1655, CSCI 1450, or MATH 1620 can substitute for ECON 1620

4 A complete list of Capstone courses can be found on the Economics Department website (https://economics.brown.edu/academics/undergraduate/honors-and-capstones/thesis/). All concentrators in economics programs are encouraged to consult their concentration advisors regularly. Economics concentrators who wish to study abroad should consult first with the department transfer credit advisor.

Honors

To graduate with honors, students must satisfy the following requirements by the end of Junior year:

- Complete at least 70% of the courses required for the concentration.
- Have earned a grade of “A” or “S with distinction” in at least 70% of grades earned in the economics concentration, or 50% in the joint concentrations in APMA-Econ, CS-Econ, and Math-Econ (excluding courses transferred to Brown without a grade, and those taken Spring 2020).
- Economics Concentrators must find a faculty thesis advisor in the economics department.
- Joint Concentrators must find a primary faculty thesis advisor in either economics or the partner department. CS-Econ concentrators must have a secondary reader in the other department by the fall of senior year. APMA-Econ and Math-Econ do not require a secondary reader, unless the primary advisor deems it necessary. Joint concentrators need to satisfy the honors requirements of the economics department if their thesis advisor is in the economics department; while they need to satisfy the honors requirements of the partner department if their thesis advisor is in the partner department.

During Senior year, thesis writers must:

- Enroll in ECON 1960 with their thesis advisor in the fall and spring semesters.
- Submit a thesis proposal to their thesis advisor and the Undergraduate Program Coordinator by mid-September.
- Submit their work in progress to their thesis advisor and the Undergraduate Program Coordinator by mid-December.
- Depending on the nature of the thesis work, the thesis adviser may require the student to successfully complete one or more courses from among the data methods (https://economics.brown.edu/academics/undergraduate/concentrations/combined/course-groupings/), mathematical economics (https://economics.brown.edu/academics/undergraduate/concentrations/combined/course-groupings/ and/or financial economics (https://economics.brown.edu/academics/undergraduate/concentrations/combined/course-groupings/) course groups in the fall of senior year, if they have not already done so.
- Complete an honors thesis by the deadline agreed upon with their advisor and obtain the final approval of their advisor by mid-April.
- Thesis writers are encouraged, but not required, to participate in the departmental Honors Thesis Presentation session held in May, with a brief presentation of their work and findings.

Professional Track

1 In addition to fulfilling the other concentration requirements, students on the Professional Track must complete 2-6 months of full-time professional work related to their concentration, with a given internship or job lasting at least one month. International students must declare the professional track of their concentration in order for U.S. based internships to qualify for Curricular Practical Training (CPT). Such work is normally done at a company, but may also be at a university under the supervision of a faculty member. Professional experiences completed over winter break cannot be used to fulfill this requirement. On completion of each professional experience, the student must write and upload to ASK a reflective essay about the experience, to be approved by their concentration advisor.

On completion of each professional experience, the student must write and upload to ASK a reflective essay about the experience, to be approved by the student’s concentration advisor:

1 International students must declare the professional track of their concentration in order for U.S. based internships to qualify for Curricular Practical Training (CPT). In addition to their other concentration requirements, students must complete two two-to-four month full time professional experiences, doing work that is related to their concentration program. Such work is normally done at a company or a non profit, but may also be at a university under the supervision of a faculty member. Upon completion of each profession experience, the student must write a reflective essay on ASK, to be approved by their concentration advisor.

Education Studies

Welcome to Education Studies! Undergraduate concentrators study education in a rigorous, multi-dimensional way that allows them to investigate thorny questions of opportunity and equity in real-world settings. Our ever-expanding array of education courses allows undergraduates to explore fundamental issues of race, class, power, privilege, equity and identity through the lens of education. From introductory courses to advanced seminars, our classes examine how to teach for social justice, how students learn and develop, and how education policies promote or limit opportunity and equity.

Our faculty includes experts in teaching and learning, human development, education policy, and the history of education. We take a

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
The concentration in Education Studies requires a total of 10 credit-bearing courses: 3 core courses, 4 specialization courses, 3 electives, and an experiential component. The concentration is designed to provide students with a broad-based introduction to the field of education and empirical methods used in the field, while also allowing for personalized study plans.

**Concentration Requirements**

1. **Three (3) Core Courses:** Two introductory courses (EDUC 0300 and EDUC 0750) and EDUC 1900 will provide students with a broad-based introduction to the field of education and empirical methods used in the field, while 1 Senior Seminar, EDUC 1900, offers a culmination of students' experiences in the concentration.

2. **Four (4) Specialization Courses:** Students choose 4 courses total in their planned area of emphasis within the education field. Some examples include: Education Policy Analysis; Human Development; Education and Inequality; Education for Social Justice; Adolescence; Immigrant Families, Communities & Education; Child Development; Teaching and Learning; Education and Economics; or any related topic of interest.

3. **Three (3) Elective Courses:** Students choose three courses related to the field of education and the student's field of study. One (1) independent study course can be counted towards concentration requirements. No more than 3 courses in an Education Studies concentration can come from other departments outside of Education, and all courses should be approved by the student's advisor and meaningfully tied to education.

4. **One (1) Experiential Component:** Before the beginning of the spring semester of senior year, students must complete an Experiential Component designed to promote practice-based engagement with the field of education and reflect on their experiences, tying them into their academic learning in the Education Studies concentration. Students can satisfy this requirement in one of the following ways and then upload documentation in their ASK designation:
   - By completing an existing Community-Based Learning and Research (CBLR) in the Department. OR
   - By writing a paper reflecting on their experience through the lens of their course work in the Department, the student's academic advisor will assess the paper. OR
   - By completing the Experiential Component Based (ECB) Capstone project in EDUC 1900 (Senior Seminar) OR
   - By completing the reflection in an independent study-like course “Reflecting on Fieldwork.”

**Education Studies Concentration Plan of Study**

### Foundational Courses Required for Education Studies Concentration

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC 0300</td>
<td>Introduction to Education and Society:</td>
</tr>
<tr>
<td></td>
<td>Foundations of Opportunity and Inequality</td>
</tr>
<tr>
<td>EDUC 0750</td>
<td>Evidence and Method in Education</td>
</tr>
<tr>
<td>EDUC 1900</td>
<td>Senior Seminar</td>
</tr>
</tbody>
</table>

### Other Courses in Education Studies Concentration

4 courses in Area of Emphasis (could include any 4 of the following)  

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC 0405</td>
<td>New Faces, New Challenges: Immigrant</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Students in U.S. Schools</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 0515</td>
<td>Teaching LGBTQIA History</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 0520</td>
<td>Adolescent Literature</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 0530</td>
<td>Fieldwork and Seminar in Secondary</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Education</td>
<td></td>
</tr>
<tr>
<td>EDUC 0540</td>
<td>Language and Education Policy in</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Multilingual Contexts</td>
<td></td>
</tr>
<tr>
<td>EDUC 0550</td>
<td>Current Issues in US Higher Education</td>
<td></td>
</tr>
<tr>
<td>EDUC 0620</td>
<td>Cradle of Inequality: The Role of</td>
<td></td>
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<tr>
<td></td>
<td>Families, Schools, and Neighborhoods</td>
<td></td>
</tr>
<tr>
<td>EDUC 0800</td>
<td>Introduction to Human Development and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Education</td>
<td></td>
</tr>
<tr>
<td>EDUC 0815</td>
<td>The Craft of Teaching</td>
<td></td>
</tr>
<tr>
<td>EDUC 0830</td>
<td>Sociology of Education</td>
<td></td>
</tr>
<tr>
<td>EDUC 0835</td>
<td>Comparative Education</td>
<td></td>
</tr>
<tr>
<td>EDUC 1190</td>
<td>Family Engagement in Education</td>
<td></td>
</tr>
<tr>
<td>EDUC 1195</td>
<td>What's AntiBlackness Doing in a &quot;Nice</td>
<td></td>
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<tr>
<td></td>
<td>Field Like Education&quot;</td>
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<tr>
<td>EDUC 1300</td>
<td>Schools as Sites of Social Welfare: An</td>
<td></td>
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<tr>
<td></td>
<td>Exploration of the Role of Social Workers</td>
<td></td>
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<tr>
<td></td>
<td>in Schools</td>
<td></td>
</tr>
<tr>
<td>EDUC 1320</td>
<td>Turning Hope into Results: The Policy</td>
<td></td>
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<tr>
<td></td>
<td>Ecosystem of the Providence Public</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Schools District</td>
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</tr>
<tr>
<td>EDUC 1620</td>
<td>Urban Schools in Historical Perspective</td>
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</tr>
<tr>
<td>EDUC 1655</td>
<td>Human Development and Education in</td>
<td></td>
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<td></td>
<td>East Asia</td>
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<tr>
<td>EDUC 1675</td>
<td>The Psychology of Teaching and Learning</td>
<td></td>
</tr>
<tr>
<td>EDUC 1680</td>
<td>Histories of Race and Education in the</td>
<td></td>
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<tr>
<td></td>
<td>United States</td>
<td></td>
</tr>
<tr>
<td>EDUC 1760A</td>
<td>Beauty Pageants as an American Institution</td>
<td></td>
</tr>
</tbody>
</table>

### 3 Foundational courses in Education (from the table above)  

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC 0300</td>
<td>Introduction to Education and Society:</td>
</tr>
<tr>
<td></td>
<td>Foundations of Opportunity and Inequality</td>
</tr>
<tr>
<td>EDUC 0750</td>
<td>Evidence and Method in Education</td>
</tr>
<tr>
<td>EDUC 1900</td>
<td>Senior Seminar</td>
</tr>
</tbody>
</table>

### 3 Electives  

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC 0405</td>
<td>New Faces, New Challenges: Immigrant</td>
</tr>
<tr>
<td></td>
<td>Students in U.S. Schools</td>
</tr>
<tr>
<td>EDUC 0515</td>
<td>Teaching LGBTQIA History</td>
</tr>
<tr>
<td>EDUC 0520</td>
<td>Adolescent Literature</td>
</tr>
</tbody>
</table>

### 0 Experiential Component  

**Total Credits:** 10

**Honors**

Concentrators seeking to graduate with honors must apply for honors candidacy by the end of their sixth semester. Successful candidates must meet all requirements for the concentration; maintain a minimum grade average that includes more A's than B's in Education courses (a B must be counterbalanced by two A's); and successfully complete EDUC 1900 (fall) and EDUC 1991 (spring), in which they write a senior thesis under the guidance of a thesis advisor. Honors are awarded on the basis of thesis quality, and students whose theses meet or exceed the standards established in the Department Rubric will earn honors upon graduation.

More information about writing an Honors thesis can be found on our website: [https://education.brown.edu/academics/undergraduate/honors](https://education.brown.edu/academics/undergraduate/honors)

**Combined Baccalaureate/Master of Arts in Teaching Degree**

The Education Department offers a combined degree program. Brown undergraduates can apply to earn both the MAT degree and a B.A. or B.S. in a subject field (English, history, math, biology, chemistry, physics, engineering and allied concentrations) in 5 years.

Brown undergraduates can apply through the Education Department during their junior year. During their undergraduate years, candidates must complete all baccalaureate requirements and may take up to two of the required graduate courses. In their fifth year, they will complete the remaining required graduate courses, including the one-year teaching residency. The minimum requirements to complete both degrees are 36 credits, of which a maximum of two may count toward both the bachelor's degree and the MAT degree.
## Egyptology and Assyriology

The concentration in Egyptology and Assyriology offers students a choice of two tracks: Assyriology or Egyptology. The department promotes collaborations with other academic units at Brown devoted to the study of antiquity including Archaeology, Classics, Judaic Studies, and Religious Studies. Egyptology and Assyriology also collaborates with Brown’s Joukowsky Institute for Archaeology and the Ancient World.

### Assyriology Track

Also known as the Near East or Middle East, Western Asia includes present-day Iraq, Syria, Turkey, and other neighboring states, a broad geographic area that was connected in antiquity with the wider world—the Mediterranean, North Africa, the Arabian Peninsula, Central Asia, and the Asian subcontinent. Students will be exposed to the critical study of the ancient cultures of this region (ca. 3400 B.C.E.–100 C.E.) using the tools of archaeology, epigraphy, and historical inquiry. A variety of interdisciplinary, comparative, and theoretical approaches will be introduced to give students the tools and methods to explore this region’s ancient languages and literatures, political and socio-economic modes of organization, art and architecture, religious traditions and other systems of knowledge, such as early science.

The Assyriology (ASYR) track requires a total of at least ten (10) courses that are determined in the following way:

**Introductory courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASYR 0800</td>
<td>The Cradle of Civilization? An Introduction to the Near East</td>
</tr>
<tr>
<td>or ARCH 1600</td>
<td>Archaeologies of the Near East</td>
</tr>
</tbody>
</table>

**Foundational Courses (at least one course from each of the following three areas):**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASYR 1100</td>
<td>Imagining the Gods: Myths and Myth-making in Ancient Mesopotamia (WRIT)</td>
</tr>
<tr>
<td>ASYR 1300</td>
<td>The Age of Empires: The Ancient Near East in the First Millennium BC</td>
</tr>
<tr>
<td>ASYR 1500</td>
<td>Ancient Babylonian Magic and Medicine</td>
</tr>
<tr>
<td>ASYR 2310B</td>
<td>Assyriology I (WRIT)</td>
</tr>
<tr>
<td>ASYR 2310C</td>
<td>Assyriology II (WRIT)</td>
</tr>
<tr>
<td>ASYR 2600</td>
<td>Topics in Cuneiform Studies</td>
</tr>
</tbody>
</table>

**Ancient Scholarship in Western Asia:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASYR 1600</td>
<td>Astronomy Before the Telescope</td>
</tr>
<tr>
<td>ASYR 1650</td>
<td>Time in the Ancient World (WRIT)</td>
</tr>
<tr>
<td>ASYR 1700</td>
<td>Astronomy, Divination and Politics in the Ancient World (WRIT)</td>
</tr>
<tr>
<td>ASYR 1750</td>
<td>Divination in Ancient Mesopotamia (WRIT)</td>
</tr>
<tr>
<td>ASYR 2310A</td>
<td>Ancient Scientific Texts: Akkadian</td>
</tr>
</tbody>
</table>

**ARCH 1200F** City and the Festival: Cult Practices and Architectural Production in the Ancient Near East (WRIT)

**ARCH 1200I** Material Worlds: Art and Agency in the Near East and Africa

**ARCH 1810** Under the Tower of Babel: Archaeology, Politics, and Identity in the Modern Middle East (WRIT)

**ARCH 2010C** Architecture, Body and Performance in the Ancient Near Eastern World (WRIT)

**ARCH 2300** The Rise of the State in the Near East

**Depth Requirement:** At least two additional courses offered in ASYR or ARCH dealing with ancient Western Asia. These courses must be approved by the undergraduate concentration advisor.

**Total Credits**

1 This list contains possible offerings but should not be considered exhaustive.

### Egyptology Track

The Egyptology track requires a total of at least ten courses. Six of these must be taken by all concentrators, but the remaining four can be chosen from a fairly broad range of courses, to suit individual interests.

**Introductory Courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EGYT 1310 &amp; EGYT 1320</td>
<td>Introduction to Classical Hieroglyphic Egyptian Writing and Language (Middle Egyptian I) and Introduction to Classical Hieroglyphic Egyptian Writing and Language (Middle Egyptian II)</td>
</tr>
<tr>
<td>EGYT 1430 &amp; EGYT 1440</td>
<td>History of Egypt I and History of Egypt II</td>
</tr>
<tr>
<td>ARCH 0150</td>
<td>Introduction to Egyptian Archaeology and Art</td>
</tr>
<tr>
<td>EGYT 1420</td>
<td>Ancient Egyptian Religion and Magic</td>
</tr>
<tr>
<td>or ARCH 1625</td>
<td>Temples and Tombs: Egyptian Religion and Culture</td>
</tr>
</tbody>
</table>

**Depth Courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EGYT 1330</td>
<td>Selections from Middle Egyptian Hieroglyphic Texts</td>
</tr>
<tr>
<td>EGYT 1410</td>
<td>Ancient Egyptian Literature</td>
</tr>
<tr>
<td>ASYR 0800</td>
<td>The Cradle of Civilization? An Introduction to the Near East</td>
</tr>
<tr>
<td>or ARCH 1600</td>
<td>Archaeologies of the Near East</td>
</tr>
</tbody>
</table>

**Elective Course:** Any course germane to ancient Egypt or the ancient Near East or Mediterranean world outside Egypt, such as:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASYR 1100</td>
<td>Imagining the Gods: Myths and Myth-making in Ancient Mesopotamia (WRIT)</td>
</tr>
<tr>
<td>ASYR 1300</td>
<td>The Age of Empires: The Ancient Near East in the First Millennium BC</td>
</tr>
<tr>
<td>ASYR 1500</td>
<td>Ancient Babylonian Magic and Medicine</td>
</tr>
<tr>
<td>ASYR 2310B</td>
<td>Assyriology I (WRIT)</td>
</tr>
<tr>
<td>ASYR 2310C</td>
<td>Assyriology II (WRIT)</td>
</tr>
<tr>
<td>ASYR 2600</td>
<td>Topics in Cuneiform Studies</td>
</tr>
</tbody>
</table>

**Depth Requirement:** At least one course offered in EGYT or ARCH on the archaeology, art, history, culture, or language of ancient Egypt.

**Elective:** At least one elective course on the ancient world broadly defined. Usually this course will be offered in Assyriology, Anthropology, Archaeology, Classics, Comparative Literature, East Asian Studies, Egyptology, History, History of Art and Architecture, Judaic Studies, Philosophy, or Religious Studies. The elective course must be approved by the undergraduate concentration advisor.

**Total Credits**

1 Required for all students pursuing the Egyptology track.

2 Or an EGYT or ARCH course in material culture.

### Capstone

All concentrators in Egyptology and Assyriology are required to complete a capstone project. The project can take many forms, but the common feature shared among all possible projects will be a public presentation. Typically in the final semester before graduating, the concentrator will give this capstone presentation before faculty, fellow students, and other interested audiences. If the concentrator is writing an undergraduate honors thesis, the procedure for which is detailed below, this work should provide the content for the capstone presentation. Students not writing

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
an honors thesis will base their presentation on a research project more in depth than a class project, though the topic may stem from a course project or paper. The format of the presentation may vary; suggestions range from an illustrated lecture to a video or an installation presented with discussion. Both the content and the format of the capstone project should be discussed with and agreed upon by the concentration advisor no later than the end of the first semester of the senior year.

**Honors in Egyptology and Assyriology**

1. **Becoming an honors candidate**

Students who wish to consider pursuing honors should meet with the Undergraduate Concentration Advisor in the first half of their sixth semester.

Eligibility is dependent on:

- Being in good standing
- Having completed at least two thirds of the concentration requirements by the end of the sixth semester.
- Having earned two-thirds “quality grades” in courses counted towards the concentration. A “quality grade” is defined as a grade of “A” or a grade of “S” accompanied by a course performance report indicating a performance at the “A” standard.

To pursue honors candidacy, eligible students must:

- Secure a faculty advisor and discuss plans for the proposed thesis project well before the established deadline; this can be done by email when a student is abroad.
- Prepare a thesis prospectus (see below).
- Submit the prospectus to the advisor, one other proposed faculty reader (at least one of the readers must be in the department) and the department chair no later than the first week of the seventh semester.

The structure of a thesis prospectus:

An honors thesis in Egyptology or Assyriology is a substantial piece of research with some degree of originality that demonstrates the student's ability to frame an appropriate question and deal critically with the range of original and secondary sources. A thesis prospectus is a short analytical document consisting of several parts. It will normally include a concise and focused research question; a justification for that question that demonstrates familiarity with previous research on the topic; a project description that includes a discussion of the types of evidence available and appropriate to answering the proposed question; a discussion of methods of collecting and analyzing that evidence; a conclusion that returns to the research question and assures the reader that the project will add value to our understanding of the topic; and a bibliography. The prospectus will ordinarily be in the range of 5-7 pages in length, exclusive of bibliography. The prospectus will include proper citations throughout.

Determination of whether or not a student may pursue the proposed project will be made on review of the prospectus by the readers and department chair. Prospectuses will be evaluated on the following scale:

1. No concerns about the viability of the project.
2. No concerns about the viability of the project, but minor weaknesses in the execution of the prospectus.
3. Concerns about the viability of the project, but willingness to reevaluate a revised prospectus submitted within two weeks of receipt of evaluation.
4. Reservations that the prospectus does not describe an honors-worthy project.
5. Poorly conceived and shoddy work.

Prospectuses will be returned to the student with this numerical evaluation and comments one week after submission of the prospectus. A prospectus must receive an evaluation of 1 or 2 prior to the third week of the seventh semester for a student to be admitted to the honors track. Students who submit an original prospectus that is graded 4 or 5 will not be permitted to rework the prospectus for the second submission.

2. **Developing, completing and submitting the honors project**

Once accepted as honors candidates, students will pursue a course of study that goes beyond what is expected of a regular concentrator. This includes:

- Enroll in two semesters of independent study in Egyptology or Assyriology (these do not fulfill course requirements towards the concentration).
- Twice-monthly meetings with the thesis advisor and once-monthly meetings with the second reader. These meetings will be scheduled at the beginning of each term.
- Submission of a comprehensive outline to both readers no later than October 15 (for May graduates)
- Regular submission of drafts. A partial draft including a complete version of at least one chapter or section is due before Reading Period of the seventh semester.
- A complete draft is due to both readers no later than March 15 (for May graduates).
- The revised final thesis is due in both electronic and physical form to both readers and department chair April 5 (for May graduates).

Failure to meet any deadline will result in automatic termination of the honors process. No extensions will be granted. If a thesis is turned in late but before the end of the term, credit and grade for the Independent Study may still be granted.

3. **Evaluating the submitted work of honors candidates**

In order to receive honors a student must be found to have:

- Remained in good academic standing throughout the academic year.
- Not violated the Academic Code of Conduct during honors candidacy.
- Complete or be about to complete all concentration requirements.
- Produced a thesis that is judged by the readers to meet the department’s expectations for honors work (see below), and turned it in by the established deadlines.
- Successfully defended the thesis during a half hour public presentation held during the final exam period of the eighth semester.

Students who submit theses that are deemed to fail short of the expectations will graduate without honors. In that case, the theses will count as a capstone project.

4. **Expectations for honors theses**

Originality:

An honors thesis in Egyptology or Assyriology is expected to add to existing scholarship. The thesis must be based on close work with primary sources (usually in publication rather than in person), supplemented by critical engagement with a substantial amount of relevant secondary literature. While the resulting study is not necessarily expected to be ground-breaking or original, it may engage with a well-studied topic, and it will usually include a new insight into or interpretation of the material considered.

Scope:

An honors thesis is not a book or dissertation. It is, however, a very serious piece of research and writing for which two dedicated study courses have provided substantial time to the honors student. The question upon which the honors thesis is based should be focused enough to allow an in-depth treatment, generally in under 100 pages or 30,000 words (exclusive of bibliography and illustrations). Appropriate length will vary considerably depending on the topic itself and the nature of the primary sources being considered, particularly if substantial translation of ancient textual sources is required.

Argument:

The thesis should present a sustained analytic argument in answer to its structuring question. A thesis should not be primarily descriptive or narrative in nature. Each chapter should contain a sub-argument that is clearly related to the overall argument of the thesis. The significance of the argument and its relationship to prior scholarship should be clearly articulated. Honors theses are not expected to demonstrate comprehensive familiarity with the secondary literature, but they are expected to engage critically and maturely with important works on the defined topic.

Methodology:

Egyptology and Assyriology are very broad fields, and the appropriate methods will be determined in conjunction with the thesis advisor on the basis of the questions and types of evidence - textual, archaeological, art historical - under consideration. With very few exceptions the
methodology of the thesis is expected to be conventional rather than innovative, rooted in the accepted practices of the field in question. Organization and writing: An honors thesis must be well organized and written. It should include an introduction and conclusion as well as well-considered chapters that allow the reader to follow the line of reasoning easily. The relationship of any section to the larger whole should be clear, and segues should help the reader move between sections. Writing should be grammatically correct, well copy-edited, professional, and consistent. Citations and bibliography must be in an accepted style as determined in consultation with the advisor.

Engineering

The concentration in Engineering equips students with a solid foundation for careers in engineering, to advance the knowledge base for future technologies, and to merge teaching, scholarship, and practice in the pursuit of solutions to human needs. The concentration offers one standard Bachelor of Arts (A.B.) program and eight Bachelor of Science (Sc.B.) degree programs. Of these, the Sc.B. programs in biomedical, chemical, computer, electrical, environmental, materials, and mechanical engineering are accredited by the Engineering Accreditation Commission of ABET (http://www.abet.org/). The engineering physics program is also offered, but is not accredited by ABET. Other programs leading to the Sc.B. or A.B. degrees in Engineering may be designed in consultation with a faculty advisor. These programs must meet the general requirements for concentration programs in the School of Engineering. Students interested in an individualized program should consult with an Engineering faculty member willing to serve as an advisor and obtain the approval of the Engineering Concentration Committee.

Please note that all students concentrating in Engineering need to file a concentration declaration using the University’s ASK advising system. This declaration must be first reviewed by the relevant Concentration Advisor and then approved by the Director of Undergraduate Studies after assuring compliance with all relevant program and accreditation requirements.

Mathematics Requirements

Since mathematics is a cornerstone of all engineering programs, there is naturally significant attention given to early preparation in mathematics in all of the engineering concentrations. It is recognized that students entering Brown will have different levels of mathematics preparation, and the following is offered as general guidance, though the actual choices of courses should be made in consultation with a freshman advisor. Mathematics 0190, 0200 is the preferred sequence of courses to be taken in the freshman year. Students who would prefer a more introductory level calculus course may start in MATH 0100 and take MATH 0200 or MATH 0180 in their second semester. Students without secondary school level preparation in calculus should consider taking the sequence MATH 0090, MATH 0100 in their first year, and should begin their sequence of engineering courses with ENGS 0300 in the sophomore year.

Students who have taken Advanced Placement (AP) courses in high school and/or have shown proficiency through Advanced Placement examinations are often able to start at a higher level than suggested above and shown in the standard programs below. If a student has advanced placement credit (e.g., placing out of MATH 0190 or MATH 0200), it is quite common for them to enroll in a higher-level math course as a replacement.

Examples of such courses are MATH 0520 (Linear Algebra), MATH 1260 (Complex Analysis), MATH 1610 (Probability), MATH 1620 (Statistics), APMA 1170 (Numerical Analysis), APMA 1210 (Operations Research), or APMA 1650 (Statistical Inference). Note that in addition to the above options, the student with advanced placement in calculus courses may choose to enroll early in APMA 0350 and APMA 0360 which are normally taken in the sophomore year (not all engineering concentrations require APMA 0360, so the choices should be guided by the concentration guidelines below). Note: Students who completed APMA 0330 and/or APMA 0340 prior to academic year 2021-22 may count those courses as satisfying the APMA 0350 and/or APMA 0360 requirements.

The student with advanced placement credit in MATH 0190 or MATH 0200 also has the further option of replacing the math course with an advanced-level science course, subject to the approval of the Concentration Advisor.

Advanced Placement

Courses that have been taken at the secondary school level are typically only used for placement into the appropriate course level at Brown. The examples of how this can be done in mathematics are given above, and there are other instances (such as in selection of the appropriate introductory chemistry course) where AP credit is considered. It should be noted, however, that advanced placement credits cannot be used to substitute for any Engineering concentration requirements; they are instead used to ensure that students are placed into the correct level of courses.

Transfer Credits

Some students will also complete courses at other universities during the time they are Brown students (sometimes during summers while they are not in residence at Brown; sometimes during a junior semester abroad). Students who have successfully completed college courses elsewhere may apply to the University for transfer credit. (See the “Study Elsewhere” section of the University Bulletin for procedures). In addition to the general rules governing such transfers, there are specific rules governing courses that will be offered as satisfying Engineering concentration requirements.

If the course proposed for transfer credit is offered by another department at Brown (i.e., that it carries a course number that does not start with ENGN), then the equivalent of the course must be established by that other department. This is done by submitting a formal request through the ASK system (https://ask.brown.edu/transfer_credits/information/index). Once this approval has been received from the other department, the student’s internal transcript will show the equivalence and the course in question can be shown in the Engineering concentration declaration as having been completed elsewhere. If the equivalence to a Brown course is not approved, then there may still be “unassigned credit” given for the course. In this case, the situation relative to how it does or does not count for concentration credit needs to be discussed with the Concentration Advisor. In rare cases, students may petition the Engineering Concentration Committee to use courses that do not have an equivalent offered at Brown in order to meet a concentration requirement. Substitutions of this nature can only be approved if the student’s overall program meets published educational outcomes for the concentration and has sufficient basic science, mathematics, and engineering topics courses to meet relevant accreditation requirements. Students should consult their Concentration Advisor for assistance with drafting a petition. The decision whether to award concentration credit is made by majority vote of the Engineering Concentration Committee.

If the student wishes to transfer a course taken outside of Brown that would normally carry an Engineering course number, the sequence is a bit different. First, the student needs to fill out an Engineering Transfer Credit Approval Request (see https://engineering.brown.edu/undergraduate/concentrations/concentration-options/study-abroad/(https://engineering.brown.edu/undergraduate/concentrations/concentration-options/study-abroad/)). This routes the request to the relevant Brown Engineering faculty member for approval. Once this has been obtained, then transfer approval is requested through the ASK system, as described above. This process ensures that the transcript will capture the equivalence of the externally completed course.

Substitutions for Required Courses

Students may petition the Engineering Concentration Committee to substitute a course in place of a defined concentration requirement. Such substitutions can only be approved if the student’s modified program continues to meet the published educational outcomes for the concentration and has sufficient basic science, mathematics, and engineering topics courses needed to meet accreditation requirements. If the substitution involves taking an equal or higher level course in substantially the same area, whether at Brown or elsewhere, it can be considered.
be approved by the Concentration Advisor without requiring a formal petition to the Concentration Committee. (For courses taken elsewhere, the credit must be officially transferred as described above.) Students wishing to make substitutions of a broader nature should consult their Concentration Advisor for assistance in drafting their petition to the Engineering Concentration Committee. Such petitions may be approved by a majority vote of the Committee.

**Standard Program for the A.B. Degree**

Please note that the A.B. degree program is not accredited by ABET. Candidates for the Bachelor of Arts (A.B.) degree with a concentration in Engineering must complete at least eight approved Engineering courses. The eight courses must include at least two 1000-level Engineering courses. Of these 1000-level courses, one must be a design or independent study course and the other an in-classroom experience. The set of Engineering courses must be chosen with careful attention to the prerequisites of the 1000-level courses.

Not all engineering courses may be used to satisfy the Engineering course requirement for the A.B. degree. For example, the following courses cannot be used to satisfy the Engineering course requirement for the A.B. degree: ENGN 0020, ENGN 0090, ENGN 0900, ENGN 0930A, ENGN 0930C, ENGN 0130, ENGN 1010, ENGN 1931Q, ENGN 1931W, ENGN 2110, ENGN 2120, ENGN 2130, ENGN 2140, ENGN 2150, ENGN 2160, ENGN 2180. Therefore, the program of study must be developed through consultation with the Concentration Advisor.

The A.B. program also requires preparation in Mathematics equivalent to MATH 0200 and APMA 0350, as well as at least one college-level science course from the general areas of chemistry (except CHEM 0100), life sciences, physics, or geological sciences. A programming course is also recommended, but not required. The entire program is subject to approval by an Engineering Concentration Advisor and the Director of Undergraduate Programs in Engineering. Note: Students who completed APMA 0330 prior to academic year 2021-22 may count that course as satisfying the APMA 0350 requirement.

**Standard Program for the Sc.B. degree:**

All Bachelor of Science (Sc.B.) program tracks build upon a common core of engineering knowledge and skills applicable across all engineering disciplines. The goal of this engineering core curriculum is to prepare to practice engineering in an age of rapidly changing technology. Two-thirds of this four-year program consists of a core of basic mathematics, physical sciences and engineering sciences common to all branches of engineering, including a thorough grounding in programming and technical problem solving. This core provides our graduates with the basis of theory, design, and analysis that will enable them to adapt to whatever may come along during their careers in engineering.

At the same time, the core courses assist students in making informed choices in determining their areas of specialization, at the end of their sophomore year. To this end, first-year students are given an introduction to engineering - featuring case studies from different disciplines in engineering as well as guest speakers from industry. This aspect of the program is different from that at many other schools where students are expected to select a specific branch of engineering much earlier in their academic programs.

In addition, all Sc.B. programs in Engineering must be complemented by at least four courses in humanities and social sciences. The minimum four-course humanities and social sciences requirement for the Sc.B. in Engineering cannot be met by advanced placement credit.

**Special Sc.B. Concentrations (non-accredited):**

In addition to the standard programs described above, students may also petition the Engineering Concentration Committee to pursue a special engineering Sc.B. degree of their own design. Such special Sc.B. programs are not ABET-accredited. Students with a special concentration will receive an Sc.B. degree in engineering, but a specific area of specialization will not be noted on their transcript. A special Sc.B. concentration is intended to prepare graduates for advanced study in engineering or for professional practice, but in an area that is not covered by one of the existing Sc.B. programs. Accordingly, special concentration programs are expected to consist of a coherent set of courses with breadth, depth and rigor comparable to an accredited degree. A total of 21 engineering, mathematics, and basic science courses are required. The program must include at least 3 courses in mathematics, at least 2 courses in physical or life sciences; and at least 12 courses in engineering. At least five of the engineering courses must be upper level courses, and one must be a capstone design course or independent study, which must be advised or co-advised by a member of the regular engineering faculty. Note that not all Engineering courses may be used to meet Sc.B. requirements: for example, the courses not allowed to count toward the A.B. will not qualify. Petitions should be prepared in consultation with an engineering faculty advisor, who will submit the petition to the Engineering Concentration Committee. Petitions must include: (i) a statement of the objectives of the degree program, and an explanation of how the courses in the program meet these objectives; (ii) course descriptions for any courses in the program that are not part of standard Sc.B. Engineering concentrations; (iii) a detailed description of any independent study courses used for concentration credit, signed by the faculty advisor for this course; and (iv) an up-to-date internal transcript.

**Professional Tracks**

While we do not give course credit for internships, we officially recognize their importance via the optional Professional Tracks. The requirements for the professional tracks include all those of the standard tracks, as well as the following: Students must complete full-time professional experiences (or part-time experiences of equivalent total effort) doing work that is related to their concentration programs, totaling 2-6 months, whereby each internship must be at least one month in duration in cases where students choose to do more than one internship experience. Such work is normally done at a company, but may also be at a university under the supervision of a faculty member. Internships that take place between the end of the fall and the start of the spring semesters cannot be used to fulfill this requirement. Upon completion of each professional experience, the student must write and upload to ASK a reflective essay about the experience addressing the following prompts:

- Describe the organization you worked in and the nature of your responsibilities.
- Which courses were put to use in your work?
- Which topics, in particular, were important?
- In retrospect, which courses should you have taken before embarking on your work experience?
- What are the topics from these courses that would have helped you if you had been more familiar with them?
- What topics would have been helpful in preparation for this work experience that you did not learn at Brown?
- What did you learn from the experience that probably could not have been picked up from course work?
- Is the sort of work you did something you would like to continue doing once you graduate? Explain.
- Would you recommend your work experience to other Brown students? Explain.

The reflective essays are subject to the approval of the student's Concentration Advisor.

Entry to the Professional Track requires a simple application form to be completed by the student and approved by the Concentration Advisor at the time of the concentration declaration. If the student has not yet declared a concentration, the form may be approved by the Chair of the Concentration Committee. The Concentration Advisor will certify that all Professional Track students have completed the necessary internships and will grant approval for the associated reflective essays. All other requirements remain identical to those in the standard tracks in the concentrations.

**Degrees with Honors in Engineering**

Honors are granted by the University to students whose work in a field of concentration has demonstrated superior quality and culminated in an ‘Honors Thesis of Distinction.’ Honors recipients in the School of Engineering must meet the following criteria: (1) Demonstrate a strong academic record (60% A’s or “S with Distinction”) in their concentration...
through the seventh semester); (2) Propose and execute an independent research project under the guidance of a faculty member; (3) Complete a written thesis to the satisfaction of the Honors Program Committee; (4) Give a scientific/technical presentation at the Undergraduate Research Symposium in the spring semester; and (5) Fulfill all deadlines for applying for or completing honors to the satisfaction of his/her research advisor and the Honors Program Committee.

**Chemical Engineering Track**

The Chemical Engineering program is accredited by the Engineering Accreditation Commission of ABET: http://www.abet.org (http://www.abet.org/). The objectives of the Brown University Chemical Engineering Sc.B. Program are to produce graduates who will: (1) apply their knowledge of engineering, science, mathematics, and liberal arts to successful careers and leadership roles in industry, government, or academia; (2) apply independent, critical, and integrative thinking to a broad range of complex, multidisciplinary problems, and effectively communicate their solutions to broad audiences of diverse backgrounds; and (3) show a lifelong commitment to technical approaches that address the needs of society in an ethical, safe, sustainable, and environmentally responsible manner. The student outcomes of this program are the ABET (1)-(7) Student Outcomes as defined by the "ABET Criteria for Accrediting Engineering Programs" available online at http://www.abet.org/accreditation-criteria-policies-documents/

1. Core Courses:
   - ENGN 0030 Introduction to Engineering 1
   - or ENGN 0031 Honors Introduction to Engineering 1
   - or ENGN 0032 Introduction to Engineering: Design 1
   - ENGN 0040 Dynamics and Vibrations 1
   - ENGN 0150 Principles of Chemical and Atomic Engineering 1
   - or BIOL 0200 The Foundation of Living Systems 1
   - ENGN 0410 Materials Science 1
   - ENGN 0510 Electricity and Magnetism 1
   - ENGN 0520 Electrical Circuits and Signals 1
   - or ENGN 0500 Digital Computing Systems 1
   - ENGN 0720 Thermodynamics 1
   - ENGN 0810 Fluid Mechanics 1
   - CHEM 0330 Equilibrium, Rate, and Structure 1
   - or MATH 0190 Single Variable Calculus, Part II (Physics/Engineering) 1
   - or MATH 0100 Single Variable Calculus, Part II 1
   - or MATH 0200 Multivariable Calculus (Physics/Engineering) 1
   - or MATH 0180 Multivariable Calculus 1
   - or MATH 0350 Multivariable Calculus With Theory 1
   - APMA 0350 Applied Ordinary Differential Equations 1
   - or APMA 0360 Applied Partial Differential Equations 1
   - or APMA 1650 Statistical Inference I 1
   - or APMA 1655 or CSCI 1450 Advanced Introduction to Probability for Computing and Data Science 1
   - MATH 0190 Single Variable Calculus, Part II (Physics/Engineering) 1
   - or MATH 0100 Single Variable Calculus, Part II 1
   - or MATH 0200 Multivariable Calculus (Physics/Engineering) 1
   - or MATH 0180 Multivariable Calculus 1
   - or MATH 0350 Multivariable Calculus With Theory 1
   - CHEM 0330 Equilibrium, Rate, and Structure 1
   - or ENGN 0410 Materials Science 1
   - or NEUR 0010 The Brain: An Introduction to Neuroscience 1
   - APMA 0350 Applied Ordinary Differential Equations 1
   - or APMA 1170 Introduction to Computational Linear Algebra 1
   - or APMA 1710 Information Theory 1
   - or CSCI 0220 Introduction to Discrete Structures and Probability 1
   - or CSCI 1570 Design and Analysis of Algorithms 1
   - or MATH 1260 Complex Analysis 1
   - Select one of the following series (other CSCI courses subject to approval): 1

Advanced Natural Sciences elective course 1

3. Capstone Design Course
   - ENGN 1140 Chemical Process Design 1

*In addition to program requirements above, students must take four courses in the humanities and social sciences.

**Total Credits** 21

1 Students who completed APMA 0330 and/or APMA 0340 prior to AY2021-22 may count these as satisfying the APMA 0350 and/or APMA 0360 requirements.

2 ENGN 1120 and 1130 are only offered in alternate years.

3 An advanced chemistry course approved by Concentration Advisor; the courses listed have been preapproved for this requirement.

4 An advanced course in the natural sciences approved by the Concentration Advisor. For suggestions of acceptable courses that fulfill this requirement, please see the Concentration Advisor.

**Computer Engineering Track**

The Computer Engineering program is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org (http://www.abet.org/). The Program Educational Objectives (PEOs) of the CE undergraduate program strives to prepare graduates who: (1) will succeed as leaders in the computer engineering and technology industry and in research and development positions within industry and academia; (2) will work effectively in a range of roles to solve problems with global, economic, environmental and societal impacts; and (3) will pursue lifelong learning through advanced degrees and professional development opportunities throughout their chosen career. The student outcomes of this program are the ABET (1)-(7) Student Outcomes as defined by the "ABET Criteria for Accrediting Engineering Programs" available online at http://www.abet.org/accreditation-criteria-policies-documents/

The Computer Engineering concentration shares much of the core with the other engineering programs, but is structured to include more courses in computer science, and a somewhat different emphasis in mathematics.

1. Core Courses:
   - ENGN 0030 Introduction to Engineering 1
   - or ENGN 0031 Honors Introduction to Engineering 1
   - or ENGN 0032 Introduction to Engineering: Design 1
   - ENGN 0040 Dynamics and Vibrations 1
   - ENGN 0150 Principles of Chemical and Atomic Engineering 1
   - or BIOL 0200 The Foundation of Living Systems 1
   - ENGN 0410 Materials Science 1
   - ENGN 0510 Electricity and Magnetism 1
   - ENGN 0520 Electrical Circuits and Signals 1
   - or ENGN 0500 Digital Computing Systems 1
   - ENGN 0720 Thermodynamics 1
   - ENGN 0810 Fluid Mechanics 1
   - CHEM 0330 Equilibrium, Rate, and Structure 1
   - or MATH 0190 Single Variable Calculus, Part II (Physics/Engineering) 1
   - or MATH 0100 Single Variable Calculus, Part II 1
   - or MATH 0200 Multivariable Calculus (Physics/Engineering) 1
   - or MATH 0180 Multivariable Calculus 1
   - or MATH 0350 Multivariable Calculus With Theory 1
   - APMA 1650 Statistical Inference I 1
   - or APMA 1655 or CSCI 1450 Advanced Introduction to Probability for Computing and Data Science 1
   - MATH 0190 Single Variable Calculus, Part II (Physics/Engineering) 1
   - or MATH 0100 Single Variable Calculus, Part II 1
   - or MATH 0200 Multivariable Calculus (Physics/Engineering) 1
   - or MATH 0180 Multivariable Calculus 1
   - or MATH 0350 Multivariable Calculus With Theory 1
   - CHEM 0330 Equilibrium, Rate, and Structure 1
   - or ENGN 0410 Materials Science 1
   - or NEUR 0010 The Brain: An Introduction to Neuroscience 1
   - APMA 0350 Applied Ordinary Differential Equations 1
   - or APMA 1170 Introduction to Computational Linear Algebra 1
   - or APMA 1710 Information Theory 1
   - or CSCI 0220 Introduction to Discrete Structures and Probability 1
   - or CSCI 1570 Design and Analysis of Algorithms 1
   - or MATH 1260 Complex Analysis 1

Select one of the following series (other CSCI courses subject to approval): 2

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Notes</th>
</tr>
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<tbody>
<tr>
<td>CSCI 0150</td>
<td>Introduction to Object-Oriented Programming and Computer Science</td>
<td>AND</td>
</tr>
<tr>
<td>CSCI 0200</td>
<td>Program Design with Data Structures and Algorithms</td>
<td>OR</td>
</tr>
<tr>
<td>CSCI 0170</td>
<td>Computer Science: An Integrated Introduction</td>
<td>OR</td>
</tr>
<tr>
<td>CSCI 0200</td>
<td>Program Design with Data Structures and Algorithms</td>
<td>OR</td>
</tr>
<tr>
<td>CSCI 0190</td>
<td>Accelerated Introduction to Computer Science (plus one additional CSCI course subject to Concentration Advisor approval)</td>
<td>2. Upper-Level Computer Engineering Curriculum:</td>
</tr>
<tr>
<td>ENGN 1570</td>
<td>Linear System Analysis</td>
<td>1</td>
</tr>
<tr>
<td>ENGN 1630</td>
<td>Digital Electronics Systems Design</td>
<td>1</td>
</tr>
<tr>
<td>ENGN 1640</td>
<td>Design of Computing Systems</td>
<td>1</td>
</tr>
<tr>
<td>MATH 0520</td>
<td>Linear Algebra</td>
<td>1</td>
</tr>
<tr>
<td>or MATH 0540</td>
<td>Linear Algebra With Theory</td>
<td>1</td>
</tr>
<tr>
<td>One advanced Computer Engineering foundations course:</td>
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</tr>
<tr>
<td>ENGN 1580</td>
<td>Communication Systems</td>
<td>1</td>
</tr>
<tr>
<td>ENGN 1600</td>
<td>Design and Implementation of Digital Integrated Circuits</td>
<td>1</td>
</tr>
<tr>
<td>ENGN 1610</td>
<td>Image Understanding</td>
<td>1</td>
</tr>
<tr>
<td>ENGN 1620</td>
<td>Analysis and Design of Electronic Circuits</td>
<td>1</td>
</tr>
<tr>
<td>ENGN 2530</td>
<td>Digital Signal Processing</td>
<td>1</td>
</tr>
<tr>
<td>One advanced Computer Science course with significant systems programming:</td>
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</tr>
<tr>
<td>CSCI 0330</td>
<td>Introduction to Computer Systems</td>
<td>1</td>
</tr>
<tr>
<td>or ENGN 0500</td>
<td>Digital Computing Systems</td>
<td>1</td>
</tr>
<tr>
<td>or CSCI 0320</td>
<td>Introduction to Software Engineering</td>
<td>1</td>
</tr>
<tr>
<td>or CSCI 1230</td>
<td>Introduction to Computer Graphics</td>
<td>1</td>
</tr>
<tr>
<td>or CSCI 1380</td>
<td>Distributed Computer Systems</td>
<td>1</td>
</tr>
<tr>
<td>or CSCI 1670</td>
<td>Operating Systems</td>
<td>1</td>
</tr>
<tr>
<td>or CSCI 1680</td>
<td>Computer Networks</td>
<td>1</td>
</tr>
<tr>
<td>Select three upper-level Computer Engineering electives. At least one must be an ENGN course, and at least one must be a CSCI course. Note that some upper-level courses are not offered every year. Other 1000- or 2000-level ENGN and CSCI courses outside of the list below may also be approved by the Concentration Advisor if they have appropriate connections to Computer Engineering.</td>
<td>3</td>
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<tr>
<td>ENGN 1220</td>
<td>Neuroengineering</td>
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<tr>
<td>ENGN 1450</td>
<td>Properties and Processing of Electronic Materials</td>
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</tr>
<tr>
<td>ENGN 1560</td>
<td>Introduction to Applied Electromagnetics</td>
<td>1</td>
</tr>
<tr>
<td>ENGN 1580</td>
<td>Communication Systems</td>
<td>1</td>
</tr>
<tr>
<td>ENGN 1590</td>
<td>Semiconductor Devices</td>
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</tr>
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<td>ENGN 1600</td>
<td>Design and Implementation of Digital Integrated Circuits</td>
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<tr>
<td>ENGN 1610</td>
<td>Image Understanding</td>
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</tr>
<tr>
<td>ENGN 1620</td>
<td>Analysis and Design of Electronic Circuits</td>
<td>1</td>
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<tr>
<td>ENGN 1690</td>
<td>Photovoltaics Engineering</td>
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<td>ENGN 1930B</td>
<td>Photovoltaics Engineering</td>
<td>1</td>
</tr>
<tr>
<td>ENGN 1931F</td>
<td>Introduction to Power Engineering</td>
<td>1</td>
</tr>
<tr>
<td>ENGN 1931I</td>
<td>Design of Robotic Systems</td>
<td>1</td>
</tr>
<tr>
<td>ENGN 1931M</td>
<td>Industrial Machine Vision</td>
<td>1</td>
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<tr>
<td>ENGN 1931Y</td>
<td>Control Systems Engineering</td>
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<tr>
<td>ENGN 2500</td>
<td>Medical Image Analysis</td>
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<td>ENGN 2501</td>
<td>Digital Image Analysis</td>
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<td>ENGN 2502</td>
<td>3D Photography</td>
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<tr>
<td>ENGN 2520</td>
<td>Pattern Recognition and Machine Learning</td>
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<tr>
<td>ENGN 2530</td>
<td>Digital Signal Processing</td>
<td>1</td>
</tr>
<tr>
<td>ENGN 2540</td>
<td>Audio and Speech Processing</td>
<td>1</td>
</tr>
<tr>
<td>ENGN 2560</td>
<td>Computer Vision</td>
<td>1</td>
</tr>
<tr>
<td>ENGN 2610</td>
<td>Physics of Solid State Devices</td>
<td>1</td>
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<tr>
<td>ENGN 2620</td>
<td>Solid State Quantum and Optoelectronics</td>
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<tr>
<td>ENGN 2910A</td>
<td>Advanced Computer Architecture</td>
<td>1</td>
</tr>
<tr>
<td>ENGN 2911X</td>
<td>Reconfigurable Computing for Machine/Deep Learning</td>
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<tr>
<td>ENGN 2912B</td>
<td>Scientific Programming in C++</td>
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<tr>
<td>ENGN 2912E</td>
<td>Low Power VLSI System Design</td>
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<tr>
<td>ENGN 2912K</td>
<td>Mixed-Signal Electronic Design</td>
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<tr>
<td>ENGN 2920F</td>
<td>Sensors and Actuators for Real Systems</td>
<td>1</td>
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<tr>
<td>CSCI 0320</td>
<td>Introduction to Software Engineering</td>
<td>1</td>
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<tr>
<td>CSCI 1230</td>
<td>Introduction to Computer Graphics</td>
<td>1</td>
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<tr>
<td>CSCI 1270</td>
<td>Database Management Systems</td>
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<tr>
<td>CSCI 1380</td>
<td>Distributed Computer Systems</td>
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<tr>
<td>CSCI 1410</td>
<td>Artificial Intelligence</td>
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<td>CSCI 1420</td>
<td>Machine Learning</td>
<td>1</td>
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<td>CSCI 1430</td>
<td>Computer Vision</td>
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<td>CSCI 1470</td>
<td>Deep Learning</td>
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<tr>
<td>CSCI 1480</td>
<td>Building Intelligent Robots</td>
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<tr>
<td>CSCI 1570</td>
<td>Design and Analysis of Algorithms</td>
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<tr>
<td>CSCI 1600</td>
<td>Real-Time and Embedded Software</td>
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<tr>
<td>CSCI 1660</td>
<td>Introduction to Computer Systems Security</td>
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<tr>
<td>CSCI 1670</td>
<td>Operating Systems</td>
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<tr>
<td>CSCI 1680</td>
<td>Computer Networks</td>
<td>1</td>
</tr>
<tr>
<td>CSCI 1730</td>
<td>Design and Implementation of Programming Languages</td>
<td>1</td>
</tr>
</tbody>
</table>

3. Capstone Design 3

ENGN 1650  Embedded Microprocessor Design
or ENGN 1000  Projects in Engineering Design I
or ENGN 1001  Projects in Engineering Design II

4. General Education Requirement: At least four approved courses must be taken in humanities and social sciences

Total Credits 21

1 Or Biology course beyond BIOL 0200 subject to Concentration Advisor approval

2 Subject to approval by the Concentration Advisor, the third upper-level elective may optionally be chosen from another department, such as CLPS, NEUR, PHYS or CHEM, if it has a significant quantitative physical science emphasis.

3 Subject to approval by the Concentration Advisor, an independent study course (ENGN 1972/ENGN 1973) may be used to fulfill the Engineering Capstone Design requirement. To qualify for such approval, the independent study project must: (1) contain a significant and definable design component; (2) be based on the knowledge and skills acquired in earlier course work, (3) incorporate appropriate engineering standards; and (4) address multiple realistic constraints. To request approval, please complete the online form available at https://engineering.brown.edu/undergraduate/concentrations/concentration-options/independent-study/concentration-options/independent-study/.

Electrical Engineering Track

The Electrical Engineering program is accredited by the Engineering Accreditation Commission of ABET: http://www.abet.org. The Program

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Educational Objectives (PEOs) of the Electrical Engineering Sc.B. Program are to prepare the graduates: (1) to leverage their knowledge of mathematics, science, engineering, and liberal arts to succeed as leaders in engineering and technology industries and in R&D positions in industry and academia; (2) to build broad knowledge and experience in interdisciplinary research and project management, and to apply critical thinking skills in developing and evaluating technological solutions addressing societal needs. The student outcomes of this program are the ABET (1) - (7) Student Outcomes as defined by the “ABET Criteria for Accrediting Engineering Programs” available online at http://www.abet.org/accreditation-criteria-policies-documents/

1. Core Courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ENGN 0030</td>
<td>Introduction to Engineering</td>
<td>1</td>
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<tr>
<td>or ENGN 0031</td>
<td>Honors Introduction to Engineering</td>
<td></td>
</tr>
<tr>
<td>or ENGN 0032</td>
<td>Introduction to Engineering: Design</td>
<td></td>
</tr>
<tr>
<td>ENGN 0040</td>
<td>Dynamics and Vibrations</td>
<td>1</td>
</tr>
<tr>
<td>ENGN 0410</td>
<td>Materials Science</td>
<td>1</td>
</tr>
<tr>
<td>ENGN 0510</td>
<td>Electricity and Magnetism</td>
<td>1</td>
</tr>
<tr>
<td>ENGN 0520</td>
<td>Electrical Circuits and Signals</td>
<td>1</td>
</tr>
<tr>
<td>ENGN 0720</td>
<td>Thermodynamics</td>
<td>1</td>
</tr>
<tr>
<td>ENGN 0310</td>
<td>Mechanics of Solids and Structures</td>
<td>1</td>
</tr>
<tr>
<td>or ENGN 0500</td>
<td>Digital Computing Systems</td>
<td></td>
</tr>
<tr>
<td>or ENGN 0810</td>
<td>Fluid Mechanics</td>
<td></td>
</tr>
<tr>
<td>or CSCI 0200</td>
<td>Program Design with Data Structures and Algorithms</td>
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</tr>
<tr>
<td>CHEM 0330</td>
<td>Equilibrium, Rate, and Structure</td>
<td>1</td>
</tr>
<tr>
<td>or MATH 0520</td>
<td>Linear Algebra</td>
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</tr>
<tr>
<td>or MATH 0540</td>
<td>Linear Algebra With Theory</td>
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<tr>
<td>or APMA 0360</td>
<td>Applied Partial Differential Equations I</td>
<td></td>
</tr>
<tr>
<td>MATH 0190</td>
<td>Single Variable Calculus, Part II (Physics/Engineering)</td>
<td>1</td>
</tr>
<tr>
<td>or MATH 0100</td>
<td>Single Variable Calculus, Part II</td>
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<tr>
<td>MATH 0200</td>
<td>Multivariable Calculus (Physics/Engineering)</td>
<td>1</td>
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<tr>
<td>or MATH 0180</td>
<td>Multivariable Calculus</td>
<td></td>
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<tr>
<td>or MATH 0350</td>
<td>Multivariable Calculus With Theory</td>
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<tr>
<td>APMA 0350</td>
<td>Applied Ordinary Differential Equations</td>
<td>1</td>
</tr>
<tr>
<td>APMA 1650</td>
<td>Statistical Inference</td>
<td>1</td>
</tr>
<tr>
<td>or APMA 1710</td>
<td>Information Theory</td>
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<tr>
<td>or CSCI 1450</td>
<td>Advanced Introduction to Probability for Computing and Data Science</td>
<td>1</td>
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<tr>
<td>CSCI 0150</td>
<td>Introduction to Object-Oriented Programming and Computer Science</td>
<td>2</td>
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<tr>
<td>or CSCI 0111</td>
<td>Computing Foundations: Data</td>
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<tr>
<td>or CSCI 0170</td>
<td>Computer Science: An Integrated Introduction</td>
<td></td>
</tr>
<tr>
<td>or CSCI 0190</td>
<td>Accelerated Introduction to Computer Science</td>
<td></td>
</tr>
<tr>
<td>or APMA 0160</td>
<td>Introduction to Scientific Computing</td>
<td></td>
</tr>
<tr>
<td>or ENGN 1931Z</td>
<td>Interfaces, Information and Automation</td>
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</table>

2. Upper-Level Electrical Engineering Curriculum

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>ENGN 1570</td>
<td>Linear System Analysis</td>
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<tr>
<td>ENGN 1620</td>
<td>Analysis and Design of Electronic Circuits</td>
</tr>
<tr>
<td>ENGN 1630</td>
<td>Digital Electronics Systems Design</td>
</tr>
<tr>
<td>PHYS 0790</td>
<td>Physics of Matter</td>
</tr>
<tr>
<td>or PHYS 1410</td>
<td>Quantum Mechanics A</td>
</tr>
</tbody>
</table>

3. Electrical Engineering Specialization - Complete at least three courses from the following groups:

- At least one advanced Electrical Engineering foundations course:
  - ENGN 1230 Instrumentation Design
  - ENGN 1580 Communication Systems
  - ENGN 1590 Semiconductor Devices

- ENGN 1600 Design and Implementation of Digital Integrated Circuits
- ENGN 1610 Image Understanding
- ENGN 1640 Design of Computing Systems

Up to two other Electrical Engineering courses:
- ENGN 1220 Neuroengineering
- ENGN 1560 Introduction to Applied Electromagnetics
- ENGN 1650 Embedded Microprocessor Design
- ENGN 1680 Design and Fabrication of Semiconductor Devices
- ENGN 1690 Photonics Devices and Sensors
- ENGN 1930B Biomedical Optics
- ENGN 1931A Photovoltaics Engineering
- ENGN 1931F Introduction to Power Engineering
- ENGN 1931I Design of Robotic Systems
- ENGN 1931Y Control Systems Engineering
- ENGN 1931Z Interfaces, Information and Automation

Up to one interdisciplinary engineering science course:
- CLPS 1491 Neural Modeling Laboratory
- CLPS 1520 Computational Vision
- ENGN 1370 Advanced Engineering Mechanics
- ENGN 1450 Properties and Processing of Electronic Materials
- NEUR 2110 Statistical Neuroscience
- PHYS 1420 Quantum Mechanics B

4. Capstone Design: At least one course from the following:

- ENGN 1650 Embedded Microprocessor Design
- or ENGN 1000 Projects in Engineering Design I
- or ENGN 1001 Projects in Engineering Design II

5. General Education Requirement: At least four approved courses must be taken in humanities and social sciences

Total Credits 21

1. Another APMA/MATH course, such as MATH 0520 or APMA 0360, can be used in consultation with the Concentration Advisor, provided ENGN 1580 is taken in the upper-level Electrical Engineering program.
2. ENGN 1931Z may replace CSCI 0150 or meet an upper-level elective requirement, but not both.
3. Other Electrical Engineering foundations courses can also be taken, as well as a 2000-level Electrical Engineering graduate course, such as ENGN 2500, ENGN 2520, ENGN 2530, ENGN 2560, ENGN 2912K, ENGN 2610.
4. Or CSCI course beyond CSCI 0200, subject to Concentration Advisor approval. CSCI 0200 cannot be used to fulfill two requirements.
5. Subject to approval by the Concentration Advisor, an independent study course (ENGN 1972/ENGN 1973) may be used to fulfill the Engineering Capstone Design requirement. To qualify for such approval, the independent study project must: (1) contain a significant and definable design component; (2) be based on the knowledge and skills acquired in earlier course work, (3) incorporate appropriate engineering standards; and (4) address multiple realistic constraints. To request approval, please complete the online form available at https://engineering.brown.edu/undergraduate/concentrations/concentration-options/independent-study (https://engineering.brown.edu/undergraduate/concentrations/concentration-options/independent-study/)

Environmental Engineering Track

The Environmental Engineering program is accredited by the Engineering Accreditation Commission of ABET: http://www.abet.org. Within a few years of graduation, graduates of the Brown Environmental Engineering (EnvE) Program will: (1) Engage in continued learning through professional development, professional licensure, and service to the profession and society; (2) Achieve leadership positions or roles
that advance environmental engineering practice; and (3) Pursue and successfully obtain an advanced graduate or professional degree in environmental engineering or a related discipline. The student outcomes of this program are intended to be those enumerated in items (1) - (7) Student Outcomes as defined by the "ABET Criteria for Accrediting Engineering Programs" available online at http://www.abet.org/accreditation-criteria-policies-documents/

1. Core Courses:

<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>ENGN 0300</td>
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<td>or ENGN 0031</td>
<td>Honors Introduction to Engineering</td>
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<tr>
<td>or ENGN 0032</td>
<td>Introduction to Engineering: Design</td>
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<td>ENGN 0400</td>
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<td>ENGN 0410</td>
<td>Materials Science</td>
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<td>ENGN 0490</td>
<td>Fundamentals of Environmental Engineering</td>
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<td>CSCI 0111</td>
<td>Computing Foundations: Data</td>
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<tr>
<td>or CSCI 0150</td>
<td>Introduction to Object-Oriented Programming and Computer Science</td>
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<td>or CSCI 0170</td>
<td>Computer Science: An Integrated Introduction</td>
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<td>or CSCI 0190</td>
<td>Accelerated Introduction to Computer Science</td>
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<td>or ENGN 0500</td>
<td>Digital Computing Systems</td>
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<td>or ENGN 0510</td>
<td>Electricity and Magnetism</td>
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<td>or ENGN 0520</td>
<td>Electrical Circuits and Signals</td>
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<td>ENGN 0720</td>
<td>Thermodynamics</td>
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<td>ENGN 0810</td>
<td>Fluid Mechanics</td>
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<tr>
<td>BIOL 0200</td>
<td>The Foundation of Living Systems</td>
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<td>CHEM 0330</td>
<td>Equilibrium, Rate, and Structure</td>
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<td>MATH 0190</td>
<td>Single Variable Calculus, Part II (Physics/Engineering)</td>
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<td>or MATH 0180</td>
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<td>APMA 0350</td>
<td>Applied Ordinary Differential Equations 1</td>
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<td>Applied Partial Differential Equations I</td>
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<td>APMA 1650</td>
<td>Statistical Inference I</td>
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<td>2. Advanced Science Courses</td>
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<tr>
<td>EEPS 1370</td>
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<td>or EEPS 0850</td>
<td>Weather and Climate</td>
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<tr>
<td>or EEPS 1310</td>
<td>Global Water Cycle</td>
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</tr>
<tr>
<td>or EEPS 1320</td>
<td>Introduction to Geographic Information Systems for Environmental Applications</td>
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<tr>
<td>or EEPS 1330</td>
<td>Global Environmental Remote Sensing</td>
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<tr>
<td>or EEPS 1430</td>
<td>Principles of Planetary Climate</td>
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<tr>
<td>or EEPS 1520</td>
<td>Ocean Circulation and Climate</td>
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</tr>
<tr>
<td>or EEPS 1710</td>
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<tr>
<td>BIOL 0420</td>
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<td>or BIOL 0500</td>
<td>Cell and Molecular Biology</td>
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<td>or BIOL 0800</td>
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<td>or BIOL 1470</td>
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<td>3. Upper-Level Environmental Engineering Curriculum 2</td>
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<tr>
<td>ENGN 1340</td>
<td>Water Supply and Treatment Systems - Technology and Sustainability</td>
<td>1</td>
</tr>
<tr>
<td>Plus four advanced engineering courses from the list below 4</td>
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<td></td>
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<tr>
<td>ENGN 1110</td>
<td>Transport and Biotransport Processes</td>
<td></td>
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<tr>
<td>ENGN 1120</td>
<td>Reaction Kinetics and Reactor Design</td>
<td></td>
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<tr>
<td>ENGN 1130</td>
<td>Chemical Engineering Thermodynamics</td>
<td></td>
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<tr>
<td>ENGN 1342</td>
<td>Groundwater Flow and Transport</td>
<td></td>
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<tr>
<td>ENGN 1700</td>
<td>Fluid Mechanics of Aerospace and Energy Systems</td>
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<tr>
<td>ENGN 1710</td>
<td>Principles of Heat Transfer</td>
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<tr>
<td>ENGN 1860</td>
<td>Advanced Fluid Mechanics</td>
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<tr>
<td>ENGN 1931P</td>
<td>Energy and the Environment</td>
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<tr>
<td>ENGN 1930U</td>
<td>Renewable Energy Technologies</td>
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<tr>
<td>ENGN 1931R</td>
<td>The Chemistry of Environmental Pollution</td>
<td></td>
</tr>
<tr>
<td>ENGN 2911P</td>
<td>Fate and Transport of Environmental Contaminants</td>
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</table>

Or any other course approved by the Concentration Advisor

4. Capstone Design 3

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGN 1150</td>
<td>Environmental Engineering Design</td>
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</tbody>
</table>

* In addition to program requirements above, students must take four courses in the humanities and social sciences.

Total Credits 21

1 Students who completed APMA 0330 and/or APMA 0340 prior to AY2022-23 may count these as satisfying the APMA 0350 and/or APMA 0360 requirements.
2 Or any other advanced Engineering course approved by the Concentration Advisor.
3 Subject to approval by the Concentration Advisor, an independent study course (ENGN 1972/ENGN 1973) may be used to fulfill the Engineering Capstone Design requirement. To qualify for such approval, the independent study project must: (1) contain a significant and definable design component; (2) be based on the knowledge and skills acquired in earlier course work, (3) incorporate appropriate engineering standards; and (4) address multiple realistic constraints. To request approval, please complete the online form available at https://engineering.brown.edu/undergraduate/concentrations/concentration-options/independent-study (https://engineering.brown.edu/undergraduate/concentrations/concentration-options/independent-study/)
4 Students in Classes of 2022, 2023, and 2024 may satisfy this requirement with APMA 0650 if taken in Spring 2021 or earlier.

Materials Engineering Track

The Materials Engineering program is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org. The Program Educational Objectives PEOs of the Materials Engineering Sc.B. Program are to are to prepare the graduates: (1) To build on the knowledge gained in their undergraduate program in terms of strong engineering fundamentals, a specific strength in materials engineering, advanced written and verbal communication, and societal awareness and engagement, as well as new knowledge learned in their first years of employment or graduate school, to move toward positions of responsibility, leadership, and influence in the field; and (2) to be viewed as outstanding engineering leaders, whether in start-ups or multinational corporations or academia, in terms of technical competence and in their understanding of an engineer’s responsibility to society and to ethical behavior. Through this reputation they will be having a significant organizational influence in their work. The student outcomes of this program are the (1) - (7) Student Outcomes as defined by the "ABET Criteria for Accrediting Engineering Programs" available online at http://www.abet.org/accreditation-criteria-policies-documents/.

1. Core Courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ENGN 0030</td>
<td>Introduction to Engineering</td>
<td>1</td>
</tr>
<tr>
<td>or ENGN 0031</td>
<td>Honors Introduction to Engineering</td>
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</tr>
<tr>
<td>or ENGN 0032</td>
<td>Introduction to Engineering: Design</td>
<td></td>
</tr>
<tr>
<td>ENGN 0400</td>
<td>Dynamics and Vibrations</td>
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<tr>
<td>3. Upper-Level Environmental Engineering Curriculum 2</td>
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</tr>
<tr>
<td>ENGN 1340</td>
<td>Water Supply and Treatment Systems - Technology and Sustainability</td>
<td>1</td>
</tr>
<tr>
<td>Plus four advanced engineering courses from the list below 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENGN 1110</td>
<td>Transport and Biotransport Processes</td>
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<tr>
<td>ENGN 1120</td>
<td>Reaction Kinetics and Reactor Design</td>
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<tr>
<td>ENGN 1130</td>
<td>Chemical Engineering Thermodynamics</td>
<td></td>
</tr>
<tr>
<td>ENGN 1342</td>
<td>Groundwater Flow and Transport</td>
<td></td>
</tr>
</tbody>
</table>

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
CHEM 0330  Equilibrium, Rate, and Structure 1
MATH 0190  Single Variable Calculus, Part II (Physics/Engineering) 1
or MATH 0100  Single Variable Calculus, Part II 1
MATH 0200  Multivariable Calculus (Physics/Engineering) 1
or MATH 0180  Multivariable Calculus 1
or MATH 0350  Multivariable Calculus With Theory 1
APMA 0350  Applied Ordinary Differential Equations 1
APMA 0360  Applied Partial Differential Equations I 1
or MATH 0520  Linear Algebra 1
or APMA 1210  Operations Research: Deterministic Models 1
or APMA 1650  Statistical Inference I 1
CHEM 0350  Organic Chemistry I 1
or CSCI 0111  Computing Foundations: Data 1
or CSCI 0150  Introduction to Object-Oriented Programming and Computer Science 1
or CSCI 0170  Computer Science: An Integrated Introduction 1
or CSCI 0190  Accelerated Introduction to Computer Science 1
or ENGN 1230  Instrumentation Design 1
or ENGN 1740  Computer Aided Visualization and Design 1
or ENGN 1750  Advanced Mechanics of Solids 1
or APMA 0160  Introduction to Scientific Computing 1

2. Upper-Level Materials Engineering Curriculum
ENGN 1410  Physical Chemistry of Solids 1
ENGN 1420  Kinetics Processes in Materials Science and Engineering 1
ENGN 1440  Mechanical Properties of Materials 1
PHYS 0790  Physics of Matter 1
or CHEM 0350  Organic Chemistry I 1
or CHEM 1140  Physical Chemistry: Quantum Chemistry 1
Three of the following: 2
ENGN 1450  Properties and Processing of Electronic Materials 1
ENGN 1470  Composite Materials 1
ENGN 1475  Soft Materials 1
ENGN 1480  Metallic Materials 1
ENGN 1490  Biomaterials 1
ENGN 1710  Advanced Energy and Materials 1
ENGN 1720  Advanced Energy and Materials 1
ENGN 1730  Advanced Energy and Materials 1
ENGN 1740  Advanced Energy and Materials 1
ENGN 1750  Advanced Energy and Materials 1
ENGN 1760  Advanced Energy and Materials 1

3. Capstone Design 3
ENGN 1000  Projects in Engineering Design I 1
or ENGN 1001  Projects in Engineering Design II 1
or ENGN 1930L  Biomedical Engineering Design and Innovation 1
* In addition to program requirements above, students must take four courses in the humanities and social sciences.

Total Credits 21

1 Students who completed APMA 0330 and/or APMA 0340 prior to AY2021-22 may count these as satisfying the APMA 0350 and/or APMA 0360 requirements.
2 These courses are taken in either the junior or senior year. Note that ENGN 1450, ENGN 1470, ENGN 1475, and ENGN 1480 are typically offered in alternate years.
3 Subject to approval by the Concentration Advisor, an independent study course (ENGN 1972/ENGN 1973) may be used to fulfill the Engineering Capstone Design requirement. To qualify for such approval, the independent study project must: (1) contain a significant and definable design component; (2) be based on the knowledge and skills acquired in earlier course work, (3) incorporate appropriate engineering standards; and (4) address multiple realistic constraints. To request approval, please complete the online form available at https://engineering.brown.edu/undergraduate/concentrations/concentration-options/independent-study/.

Mechanical Engineering Track
The Mechanical Engineering program is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org. The Program Educational Objectives of the Mechanical Engineering program are to prepare the graduates: (1) to pursue careers as creative and innovative mechanical engineers in industry or academia; (2) to advance the frontiers of their field; and (3) to discharge their offices in a professional and responsible manner. The student outcomes of this program are the (1) - (7) Student Outcomes as defined by the "ABET Criteria for Accrediting Engineering Programs" available online at http://www.abet.org/accreditation-criteria-policies-documents/

1. Core Courses:
ENGN 0030  Introduction to Engineering 1
or ENGN 0031  Honors Introduction to Engineering 1
or ENGN 0032  Introduction to Engineering: Design 1
ENGN 0040  Dynamics and Vibrations 1
ENGN 0310  Mechanics of Solids and Structures 1
ENGN 0410  Materials Science 1
ENGN 0510  Electricity and Magnetism 1
ENGN 0520  Electrical Circuits and Signals 1
ENGN 0720  Thermodynamics 1
ENGN 0810  Fluid Mechanics 1
CHEM 0330  Equilibrium, Rate, and Structure 1
MATH 0190  Single Variable Calculus, Part II (Physics/Engineering) 1
or MATH 0100  Single Variable Calculus, Part II 1
MATH 0200  Multivariable Calculus (Physics/Engineering) 1
or MATH 0180  Multivariable Calculus 1
or MATH 0350  Multivariable Calculus With Theory 1
APMA 0350  Applied Ordinary Differential Equations 1
APMA 0360  Applied Partial Differential Equations I 1
or CSCI 0111  Computing Foundations: Data 1
or CSCI 0150  Introduction to Object-Oriented Programming and Computer Science 1
or CSCI 0170  Computer Science: An Integrated Introduction 1
or CSCI 0190  Accelerated Introduction to Computer Science 1
or APMA 0160  Introduction to Scientific Computing 1
or ENGN 1930M  Computer Aided Visualization and Design 1
or ENGN 1931Z  Interfaces, Information and Automation 1

2. Upper-Level Mechanical Engineering Curriculum: 6 Complete at least 6 courses from the following groups:

Mechanical Systems: At least one course from:
ENGN 1300  Structural Analysis 1
ENGN 1370  Advanced Engineering Mechanics 1
ENGN 1735  Vibration of Mechanical Systems 1
ENGN 1750  Advanced Mechanics of Solids 1
Fluids/Thermal Systems: At least one course from:
ENGN 1860  Advanced Fluid Mechanics 1
ENGN 1700  Fluid Mechanics of Aerospace and Energy Systems 1
ENGN 1710  Principles of Heat Transfer 1
Capstone: At least one course from the following must be taken in the final two semesters: 3
ENGN 1900  Projects in Engineering Design I 1
or ENGN 1901  Projects in Engineering Design II 1
ENGN 1930M  Industrial Design 1
ENGN 1931D  Design of Mechanical Assemblies 1
ENGN 1760  Design of Space Systems 1
Design Electives: Up to two courses from:

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Engineering and Physics

The Sc.B. program in Engineering and Physics is sponsored jointly by the School of Engineering and the Department of Physics. The program is designed to ensure that students take a significant portion of the usual curriculum in Engineering and in Physics, obtain substantial laboratory experience, and take several upper-level elective courses, focusing on applied science. Students may take either the standard Physics or Engineering programs during their freshman and sophomore years and then switch to this combined program. The Sc.B. degree program in Engineering and Physics is not accredited by ABET.

The following standard program assumes that a student begins mathematics courses at Brown with MATH 0100 or MATH 0190. Students who begin in MATH 0200 can substitute an additional science, engineering or higher-level mathematics course for the MATH 0190 requirement. To accommodate the diverse preparation of individual students, variations of the following sequences and their prerequisites are possible with permission of the appropriate concentration advisor and the instructors involved. We recommend that each student’s degree program be submitted for prior approval (typically in semester four) and scrutinized for compliance (in semester seven) by one faculty member from the Department of Physics and one faculty member from the School of Engineering.

Select one of the following two course sequences:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ENGN 0030 &amp; ENGN 0040</td>
<td>2</td>
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<tr>
<td>PHYS 0050 &amp; PHYS 0060</td>
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<tr>
<td>PHYS 0070 &amp; PHYS 0160</td>
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<tr>
<td>MATH 0190</td>
<td>1</td>
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<tr>
<td>MATH 0200</td>
<td>1</td>
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<tr>
<td>MATH 0180</td>
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<tr>
<td>MATH 0350</td>
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<tr>
<td>Select three additional higher-level math, applied math, or mathematical physics (PHYS 0720) courses.</td>
<td>3</td>
</tr>
</tbody>
</table>

3. Upper Level Advanced Science Course: At least one course from:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>PHYS 0790</td>
<td>1</td>
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<tr>
<td>or BIOL 0800</td>
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<tr>
<td>or CHEM 0350</td>
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<tr>
<td>or CHEM 1140</td>
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<tr>
<td>or EEPS 1450</td>
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<tr>
<td>or EEPS 1370</td>
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<tr>
<td>or ENGN 1340 Water Supply and Treatment Systems - Technology and Sustainability</td>
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<tr>
<td>or ENGN 1440 Mechanical Properties of Materials</td>
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<td>or ENGN 1470 Composite Materials</td>
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<td>or ENGN 1570 Linear System Analysis</td>
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<tr>
<td>or ENGN 1931F Introduction to Power Engineering</td>
<td></td>
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<tr>
<td>or ENGN 1931Z Interfaces, Information and Automation</td>
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</tbody>
</table>

4. General Education Requirement: At least four approved courses must be taken in humanities and social sciences

Total Credits: 21

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1. ENGN 1400 may be substituted if taken in Sophomore year.
2. Students who completed APMA 0330 and/or APMA 0340 prior to AY 2021-22 may count these as satisfying the APMA 0350 and/or APMA 0360 requirements. Other advanced courses in Mathematics or Applied Mathematics may be substituted with approval of the Concentration Advisor.
3. Subject to approval by the concentration advisor, an independent study course (ENGN 1972/ENGN 1973) may be used to fulfill the Engineering Capstone Design requirement. To qualify for such approval, the independent study project must: (1) contain a significant and definable design component; (2) be based on the knowledge and skills acquired in earlier course work, (3) incorporate appropriate engineering standards; and (4) address multiple realistic constraints. To request approval, please complete the online form available at https://engineering.brown.edu/undergraduate/concentrations/concentration-options/independent-study/.
4. Other advanced alternative courses can be used with the approval of the Concentration Advisor.
5. Other non-introductory courses in physics, chemistry, neuroscience, geology, and biology are allowed.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
English

The English Department fosters the study of British, American, and Anglophone literature—old and new—in ways that are both intensive and open. We study how English literature works, how we understand and appreciate it, and how we write about it. We offer a wide array of courses in poetry, drama, fiction, creative nonfiction, film, digital media, and theory. All our courses emphasize the development of student skills in writing, textual analysis, and argument. The department’s faculty members are deeply committed to undergraduate teaching and advising. You will find considerable diversity in our critical methods, including cross-disciplinary approaches that relate the study of literature to history, politics, science, as well as to other art forms. We encourage students in our classes likewise to forge their own new ways of understanding literature and culture.

In addition to the standard English concentration, we offer an English concentration track in the practice of Nonfiction Writing. The concentration in English and the English/Nonfiction track follow the same core requirements, and students in the English concentration may elect Nonfiction Writing courses as electives. We invite applications from qualified juniors to the honors programs in both English and Nonfiction.

One of the largest humanities concentrations at Brown, English provides a strong foundation for a liberal education and for employment in many sectors, especially those that critically involve writing and working with texts (in any form). In addition to authorship, scholarship, and teaching, these include: journalism, publishing, advertising, visual media, consulting, public relations, public service, finance, government, corporate research, and administration. Our English concentrators routinely go on to law, medical, and professional schools as well as to graduate education in literature and the arts.

About the Concentration

We encourage students interested in concentrating in English to visit the department offices at 70 Brown Street and speak with a concentration advisor (https://english.brown.edu/faculty/). Students in English courses who are considering an English concentration are welcome to make an appointment to speak with their instructor. Concentration programs must be approved by a concentration advisor.

Concentration Requirements (10 courses ):

1. ONE course in ”How Literature Matters” (ENGL0100, 0101):

   Addressing topics about which professors are especially passionate, these introductory courses aim to deepen and refine students’ understanding of how literature matters: aesthetically, ethically, historically and politically. Students not only engage with larger questions about literature’s significance, exploring the particular kinds of insights and thinking it is especially suited for conveying, they also gain a deeper awareness of the critical methods we use to understand and analyze it, engaging with matters of form, genre and media. Finally, these courses help students develop their skills as close, careful readers of literary form and language.

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>ENGL 0100A</td>
<td>How To Read A Poem</td>
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<tr>
<td>ENGL 0100C</td>
<td>Altered States</td>
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<tr>
<td>ENGL 0100D</td>
<td>Matters of Romance</td>
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<tr>
<td>ENGL 0100F</td>
<td>Devils, Demons, Do-Gooders</td>
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<tr>
<td>ENGL 0100G</td>
<td>The Literature of Identity</td>
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<tr>
<td>ENGL 0100J</td>
<td>Cultures and Countercultures: The American Novel after World War II</td>
</tr>
<tr>
<td>ENGL 0100M</td>
<td>Writing War</td>
</tr>
<tr>
<td>ENGL 0100N</td>
<td>City Novels</td>
</tr>
<tr>
<td>ENGL 0100P</td>
<td>Love Stories</td>
</tr>
<tr>
<td>ENGL 0100Q</td>
<td>How Poems See</td>
</tr>
<tr>
<td>ENGL 0100R</td>
<td>American Histories, American Novels</td>
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<tr>
<td>ENGL 0100S</td>
<td>Being Romantic</td>
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<tr>
<td>ENGL 0100T</td>
<td>The Simple Art of Murder</td>
</tr>
<tr>
<td>ENGL 0100U</td>
<td>Serial Fictions</td>
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<tr>
<td>ENGL 0100V</td>
<td>Inventing Asian American Literature</td>
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<tr>
<td>ENGL 0100W</td>
<td>Literature Reformatted</td>
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<td>ENGL 0100Y</td>
<td>Do the Right Thing</td>
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<tr>
<td>ENGL 0101A</td>
<td>Independence and Modern Literature</td>
</tr>
<tr>
<td>ENGL 0101B</td>
<td>Earth Poetics: Literature and Climate Change</td>
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</tbody>
</table>

2. ONE course in Medieval and Renaissance Literatures (Pre-1700):

   These courses, which center on Medieval and Renaissance literary works, cast light on periods that can come across to us as both familiar and strange. They focus our attention on how literatures from these periods depict concepts such as aesthetics, romance, gender, sexuality, race, power and politics in ways that are like and unlike how we tend to think of them today—on how pre-modern or early modern works can both defamiliarize the categories of experience and identity we tend to take for granted and also suggest something of their origins. Several courses under this rubric will also engage with recent literary and filmic adaptations of works from these eras, exploring how many such works continue to function as vibrant and at times ambivalent inspirations for the literary imaginations of later periods.

3. ONE course in Literatures of Modernity (Post-1700):

   These courses explore the many strands of writing in English that have emerged from the eighteenth century through the present, shaping the contemporary world. These literatures reflect on political, economic, and intellectual history, from the idea of the nation and the structures of capital through the rise and dissolution of empire and the emergence of postcolonial states, including the forms of race, gender and sexuality that cut across them. Courses also examine how aesthetic works can shape and critique their moment: they look at genres like the novel and short story, poetry, drama, essays, and new, hybrid forms that have arisen with expanding digital media; they also take up a multitude of literary movements whose influences remain with us today, including Romanticism, realism, naturalism, modernism, and post-modernism.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
4. ONE course in Literatures of the Color Line:

In 1903, W. E. B. Du Bois famously proclaimed in "The Souls of Black Folk" that “The problem of the twentieth century is the problem of the color-line,—the relation of the darker to the lighter races of men in Asia and Africa, in America and the islands of the sea.” Courses in this category explore the complex ways in which literary texts have addressed American histories of race, ethnicity, and empire. They may do so from the vantage point of ideas about difference and hierarchy that predate the modern conception of race and by engaging with earlier histories of conflict and contact. These courses explore issues of intersectionality as well, highlighting how race operates in relation to other structures of difference such as gender, sexuality and class.

ENGL 0100F Devils, Demons, Do-Gooders
ENGL 0100N City Novels
ENGL 0100S Being Romantic
ENGL 0100V Inventing Asian American Literature
ENGL 0101A Independence and Modern Literature
ENGL 0150X The Claims of Fiction
ENGL 0150Y Brontës and Brontëism
ENGL 0700E Postcolonial Literature
ENGL 0500R Slavery and American Literature
ENGL 0700G American Fiction and Mass Culture
ENGL 0700U Modernism and Race
ENGL 0710B African American Literature and the Legacy of Slavery
ENGL 0710Q American Literature in the Era of Segregation
ENGL 0710V Death and Dying in Black Literature
ENGL 0710W Readings in Black and Queer
ENGL 0710X Black Poetics
ENGL 0710Y Literature of US Inequality, 1945-2020
ENGL 1310H The Origins of American Literature
ENGL 1511A American Literature and the Civil War
ENGL 1511C Lincoln, Whitman, and The Civil War
ENGL 1511P Realism, Modernism, Postmodernism: The American Novel and its Traditions
ENGL 1710I Harlem Renaissance: The Politics of Culture
ENGL 1710J Modern African Literature
ENGL 1710K Literature and the Problem of Poverty
ENGL 1710M Nationalizing Narratives: Race, Nationalism, and the American Novel
ENGL 1710P The Literature and Culture of Black Power Reconsidered
ENGL 1711D Reading New York
ENGL 1711H Lyric Concepts: The Question of Identity in Modern and Contemporary Poetry
ENGL 1711J Art for an Undivided Earth / Transnational Approaches to Indigenous Art and Activism
ENGL 1711K The Politics of Perspective: Post-war British Fiction
ENGL 1711L Contemporary Black Women’s Literature
ENGL 1711N Monsters in our Midst: The Plantation and the Woods in Trans-American Literature
ENGL 1711O Radical Pasts, Radical Futures: Literature and the Left
ENGL 1711S James Baldwin
ENGL 1760U American Modernism and its Aftemaths
ENGL 1760Y Toni Morrison
ENGL 1761B Narratives of Blackness in Latix and Latin America
ENGL 1761E Blackness and Being
ENGL 1761F Toni Morrison
ENGL 1761G Translational Echoes of the Korean War
ENGL 1761V The Korean War in Color
ENGL 1762M Caribbean Literature
ENGL 1900D Literature and Politics
ENGL 1901J Fanon and Spillers
ENGL 1950H The Recent Novel and its Cultural Rivals

5. ONE course in Literary Theory and Cultural Critique:

The late-twentieth century saw a revolution in the field of literary studies in the United States, as critics turned their attention to the contextual and historical nature of our categories of knowledge. This turn to theory was influenced by developments in psychoanalysis, linguistics, philosophy, political theory and sociology and by the emergence of social movements that challenged such structures as patriarchy, homophobia, racism, imperialism, economic inequality, and environmental violence. The avenues of inquiry opened up brought an increased awareness of the implication of literature in the operations of power and ideology; a sense of the potential for literary modes of presentation to challenge and displace such operations; and a new attention to the role of gender, race, empire, class, and sexuality in the formation of the literary work. Courses that satisfy the Literary Theory and Cultural Critique requirement explore some dimension of these issues – either directly, taking as their primary focus a set of theoretical questions or debates, or indirectly, by examining a compelling topical question of social and political significance through works of literature and literary theory.

ENGL 0150W Literature and the Visual Arts
ENGL 0700P Reading Practices: An Introduction to Literary Theory
ENGL 0700E Postcolonial Literature
ENGL 0710L Ishiguro, Amongst Others
ENGL 0710R Poetry and Science
ENGL 0711B Trans Cultural Production and Trans Studies
ENGL 0710W Readings in Black and Queer
ENGL 1140A Intellectual Pleasures: Reading/Writing the Literary Text
ENGL 1190S Poetics of Narrative
ENGL 1511Y Emily Dickinson and the Theory of Lyric Form
ENGL 1561D Writing and the Ruins of Empire
ENGL 1710M Nationalizing Narratives: Race, Nationalism, and the American Novel
ENGL 1711K The Politics of Perspective: Post-war British Fiction
ENGL 1711J Art for an Undivided Earth / Transnational Approaches to Indigenous Art and Activism
ENGL 1760J Reading Gravity’s Rainbow
ENGL 1761D Hollywood and American Modernism from FDR to JFK
ENGL 1761L Reading the Black Masses in Literature and Critical Practice
ENGL 1761Q W. G. Sebald and Some Interlocutors
ENGL 1762D Kubrick
ENGL 1900D Literature and Politics
ENGL 1900J Zooopoeias
ENGL 1900K Reading Sex

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>ENGL 1900P</td>
<td>History of Criticism from Plato to Postmodernism</td>
</tr>
<tr>
<td>ENGL 1900Y</td>
<td>Medieval Manuscript Studies: Paleography, Codicology, and Interpretation</td>
</tr>
<tr>
<td>ENGL 1900Z</td>
<td>Neuroaesthetics and Reading</td>
</tr>
<tr>
<td>ENGL 1901H</td>
<td>The Late 60s: Film Countercultures</td>
</tr>
<tr>
<td>ENGL 1901L</td>
<td>Cronenberg/Lynch</td>
</tr>
<tr>
<td>ENGL 1901J</td>
<td>Fanon and Spillers</td>
</tr>
<tr>
<td>ENGL 1901Q</td>
<td>You Better Work: Sexuality, Labor, Blackness</td>
</tr>
<tr>
<td>ENGL 1950G</td>
<td>Reading Narrative Theory</td>
</tr>
<tr>
<td>ENGL 1950H</td>
<td>The Recent Novel and Its Cultural Rivals</td>
</tr>
<tr>
<td>ENGL 2360Z</td>
<td>Shakespeare: a Politics of Love</td>
</tr>
<tr>
<td>ENGL 2761C</td>
<td>Black Internationalism and Its Discontents</td>
</tr>
<tr>
<td>ENGL 2561V</td>
<td>The Pursuit of Happiness: Transatlantic Literary Culture in the Long Eighteenth Century</td>
</tr>
<tr>
<td>ENGL 2900N</td>
<td>Ethical TURNS in Psychoanalysis and Literature</td>
</tr>
<tr>
<td>ENGL 2900X</td>
<td>Postcolonial Theory</td>
</tr>
<tr>
<td>ENGL 2901D</td>
<td>War and the Politics of Cultural Memory</td>
</tr>
<tr>
<td>ENGL 2901K</td>
<td>Theory, Technics, Religion</td>
</tr>
<tr>
<td>ENGL 2901P</td>
<td>Black Feminism: Roots, Routes, Futures</td>
</tr>
</tbody>
</table>

### Total Credits: 10

1. Each course may fulfill ONE requirement. Five courses must be 1000-level courses. With advisor approval, two of the ten required courses may be taken in departments other than English.

2. Only TWO courses dealing primarily with the practice of writing at the 1000-level may be counted as electives. ENGL0900 and ENGL0930 do not count toward the concentration, however they do fulfill prerequisites for upper-level Nonfiction courses.

One ENGL2900 may be counted toward the 10-course requirement only as an elective.

All substitutions and/or exceptions must be approved by the concentration advisor in consultation with the Director of Undergraduate Studies. A substitution or exception is not approved until specified in writing in the student’s concentration file housed in the English Department.

### English Concentration -- Nonfiction Writing Track (10 courses)

The English concentration also includes a Nonfiction Writing Track. The requirements are the same as through 6 above, but three of the five electives must be 1000-level Nonfiction Writing courses (only ONE of which may be intermediate: ENGL1030, ENGL1050). Only THREE Nonfiction courses may count toward the track.

### Honors in English

The English Honors program is intended for students who have been highly successful in their English concentration coursework and who want the opportunity to pursue a research project in more depth than is possible in an undergraduate seminar. The program is intended for those students with a strong desire to conduct independent research under the supervision of a thesis advisor and culminates in the writing of a thesis during the senior year.

### Admission

Students apply to the Honors Program early in the second semester of their junior year. December or mid-year graduates may apply in their 6th semester, but are encouraged to apply during their 5th semester and write their theses alongside May graduates. Interested concentrators should speak to the Honors Advisor early in their junior year to discuss their plans. Specific deadlines for admission are announced annually and are available on the department website. Students who are studying off campus are expected to meet the application submission deadline.

Admission to the English Honors Program depends on evidence of ability and promise in the study of literature. To be eligible for admission, students must have received more As than Bs (and no Cs or below) in concentration courses completed. Students must complete an application; supply a brief writing sample, and request two letters of recommendation from English faculty with whom they have taken courses. If necessary, letters may come from faculty in related departments. Letters from teaching assistants may only serve as supporting recommendations. Candidates must also submit a one-page project proposal signed by the faculty member who has agreed to serve as the thesis advisor. See procedures and application (http://brown.edu/academics/english/english-honors-procedures/) for more details.

### Requirements

The course requirements for the English Honors Program are the same as those for the regular concentration, with the following additions:

- As part of regular coursework, and counting toward the concentration requirements, honors candidates must complete at least three upper-level seminars or comparable small courses in which students have the opportunity to do independent research, take significant responsibility for discussion, and do extensive scholarly and critical writing. Students are encouraged to include at least one graduate seminar in their program. (Permission to take a graduate course must be obtained from the instructor.) Honors candidates should discuss their proposed course of study with the Honors Advisor.

### The Honors Thesis

The Honors thesis is an extended essay, usually between 50 and 80 pages, written under the supervision of a department faculty advisor and second reader. (Where appropriate, the advisor or the reader, but not both, may be in another department.) The thesis may be an interdisciplinary or creative project, but it is usually an essay on a scholarly or critical problem dealing with works of literature in English. The specific topic and approach of the thesis are worked out between the student and the thesis advisor, with assistance from the student’s second reader. This process should begin in the latter part of the student’s junior year. A good way to get an idea of what sorts of projects are possible is to visit the Hay Library, which stores theses from previous years, or to meet with the Honors Advisor.

For up-to-date course information please visit Courses@Brown.edu (https://cabolong.edu).
A prospectus describing the project and endorsed by the faculty advisor must be submitted to the Honors Advisor at the beginning of the senior year. At the end of the senior year fall term, a student must submit approximately 25 pages of draft material toward the thesis. Full thesis drafts are due by mid-March; final bound copies of the thesis are due in mid-April. Late theses will not be accepted for honors after the April deadline; students who hand in theses after the deadline but before the end of the term will receive a grade for the thesis course, but they will not be eligible for departmental honors. The completed thesis will be evaluated by the student’s advisor and a second reader, each of whom provides written commentary and suggests a grade for ENGL 1992.

**Evaluation**

The English Department reviews the academic record as well as the thesis evaluations for each senior completing the Honors Program. Following a successful review, the student will be eligible to graduate with Honors in English.

**Honors in Nonfiction Writing**

The Nonfiction Writing Honors Program is intended for students who have been highly successful in their English concentration work. Specifically, it allows those who have an expressed and proven interest in nonfiction writing to pursue more completely a single project under the supervision of a first reader. The intention is to help students to complete work worthy of publication. The program culminates in the writing of a thesis during the senior year.

**Admission**

Students apply to the Nonfiction Writing Honors Program in the second semester of their junior year. December or mid-year graduates may apply in the fourth semester, but are encouraged to apply during their fifth semester and write their theses alongside May graduates. Interested concentrators should have already made contact with at least one member of the Nonfiction Writing faculty and should meet with the Honors Advisor early in their junior year to discuss their plans. Specific deadlines for admission are announced annually and are available on the department website. Students who are studying off-campus are expected to meet the application submission deadline.

Admission to the Honors Program in Nonfiction Writing depends upon a student's demonstrated superior ability in nonfiction writing. Students must have taken either one intermediate and one advanced writing course, or two advanced writing courses by the end of their sixth semester and completed each of them with an S. To be eligible for admission, students must have earned more As than Bs (and no Cs or below) in other courses in the concentration plan. Students must submit an application, two letters of recommendation, a writing sample from an advanced writing course, and a project proposal.

See procedures and application (http://brown.edu/academics/english/nonfiction-honors-procedures/) for more details.

**December or mid-year graduates who wish to apply for nonfiction honors have two options, but the first is highly encouraged:**

**Option 1:**

In their fifth semester (Spring), students can apply to the nonfiction honors program along with the other juniors. Accepted students will be incorporated into the regular nonfiction honors cohort and must meet the same deadlines: i.e. they must complete their theses at the same time as the other honors students (though for mid-years this will be at the end of their 7th semester). They register for ENGL 1993 Nonfiction Honors Seminar in the Fall and ENGL 1994 Senior Honors Thesis in Nonfiction in the Spring.

**Option 2:**

In their 7th semester (the Spring of their final year) students take ENGL 1200 and in their 8th semester (the Fall of their final year) they take ENGL 1994. (Students choosing this option must consult with the Honors Advisor for information on deadlines.)

**Requirements**

Students in the Nonfiction Writing Honors Program take two additional courses beyond the ten courses required by the Nonfiction Writing Track -- ENGL 1993 Honors Seminar in Nonfiction Writing (with the Honors Advisor) and ENGL 1994 Senior Honors Thesis in Nonfiction Writing; the Honors track will bring to twelve the total number of required courses. The ENGL 1993 grade option must be S/NC; ENGL 1994 must be taken for a grade. Honors candidates should discuss their proposed course of study with the faculty member they choose to direct their thesis.

Honors candidates must continue to receive more As than Bs in courses taken as part of the concentration. Courses completed with a grade of C will not count toward an Honors concentration. A student who receives a "C" after admission to Nonfiction Honors and wishes to continue in the program must complete an additional course in a comparable subject area, with a grade higher than C.

**The Honors Thesis**

The Nonfiction Writing Honors thesis is an extended project, usually of between 50 and 80 pages, written under the supervision of one of the Nonfiction Writing faculty and a second reader (who can be from literature or another department). The specific topic and approach of the thesis are worked out between the student and the first reader, with assistance from the student's second reader. A good way to get an idea of what sorts of projects are possible is to visit the Hay Library, which stores theses from previous years, or to meet with the Honors Advisor. The work typically is in a genre chosen from Nonfiction Writing's spectrum: critical analysis, literary journalism, memoir, lyric essay, or narrative based on travel, science, history, or cultural critique.

Full thesis drafts are due by mid-March; final bound copies of the thesis are due in mid-April. Late theses will not be accepted for honors after the April deadline; students who hand in theses after the deadline and before the end of the term will receive a grade for the thesis course, but they will not be eligible for departmental honors. The completed thesis will be evaluated by its first reader and second reader, each of whom provides written commentary and suggests a grade for ENGL 1994.

**Evaluation**

The English Department reviews the academic record as well as the thesis evaluations for each senior completing the Nonfiction Writing Honors Program. Following a successful review, the student will be eligible to graduate with Honors in Nonfiction Writing.

**Environmental Studies**

Many of the most pressing challenges of the 21st Century are environmental ones. We must find ways to feed a growing human population while maintaining the natural life support system provided by the Earth’s ecosystems; to make built environments more efficient as urban areas continue to grow dramatically in size; and to meet the challenges posed by rising sea-level and increasing global temperatures. These challenges are complex, multifaceted and can best be solved with expertise from multiple, relevant disciplines. To prepare students to meet these challenges, the Institute at Brown for Environment and Society (IBES) offers two undergraduate degrees: an A.B. in Environmental Studies and a Sc.B. in Environmental Science. The two degrees vary primarily in the number of course requirements; the Sc.B. is a more in-depth treatment of a single field. Both degrees provide interdisciplinary exposure to the natural and social sciences, as well as public policy. Both degrees also develop depth in a primary field by requiring students to select one of five tracks of study. Concentrators might also consider pursuing the Engaged Scholars Program, which allows them to connect theory and practice and gain hands-on experience working with community partners.

Through a rigorous set of core courses, track requirements, and a course or project-based capstone experience, our students are primed to make meaningful contributions to environmental scholarship and outreach at local, national and global scales.

If you have administrative questions regarding theses concentrations or wish to be added to the email directory listing upcoming events, then please contact Jeanne Loewenstein (jeanne_loewenstein@brown.edu), the academic program manager.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Standard program in Environmental Studies and Environmental Science:
The Institute at Brown for Environment and Society administers two concentrations, one offering an A.B. degree in Environmental Studies (requires 13-14 courses) and the other a Sc.B. degree in Environmental Science (requires 18-19 courses). Below are a set of course offerings arranged into four tracks:
1. Air, Climate & Energy
2. Conservation Science & Policy
3. Environment & Inequality
4. Land, Water & Food Security
5. Sustainability in Development

Requirements for the A.B. Degree

**Core Requirements**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 0110</td>
<td>Principles of Economics</td>
<td>1</td>
</tr>
<tr>
<td>or HIST 0150A</td>
<td>History of Capitalism</td>
<td>1</td>
</tr>
<tr>
<td>ENVS 0490</td>
<td>Environmental Science in a Changing World</td>
<td>1</td>
</tr>
<tr>
<td>ENVS 0110</td>
<td>Humans, Nature, and the Environment:</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Addressing Environmental Change in the</td>
<td></td>
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<tr>
<td></td>
<td>21st Century</td>
<td></td>
</tr>
<tr>
<td>BIOL 0210</td>
<td>Diversity of Life</td>
<td>1</td>
</tr>
<tr>
<td>or EEPS 0240</td>
<td>Earth: Evolution of a Habitable Planet</td>
<td></td>
</tr>
</tbody>
</table>

**Electives - three courses**

Electives provide increased environmental expertise and further enhance a student’s ability to customize a course of study. Acceptable electives include any ENVS courses, classes with significant environmental content, and prerequisites for classes students take to fulfill requirements within their declared track.

**Capstone - one or two courses**

The College expects that a capstone will be completed in semesters 7 or 8 - with the intention of providing an opportunity for students to integrate many aspects of their course of study, or area of focus. This requirement can be met with a two-semester thesis (ENVS 1970 & ENVS 1971), one-semester research project (ENVS 1970 or ENVS 1971), or an approved capstone course.

**Track Specific Requirements**

**Track 1 - Air, Climate, and Energy**

Foundational courses (choose two):

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 0330</td>
<td>Equilibrium, Rate, and Structure</td>
<td></td>
</tr>
<tr>
<td>EEPS 0220</td>
<td>Understanding Earth and Environmental Processes</td>
<td></td>
</tr>
<tr>
<td>ENGN 0030</td>
<td>Introduction to Engineering</td>
<td></td>
</tr>
<tr>
<td>ENGN 0032</td>
<td>Introduction to Engineering: Design</td>
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</tr>
<tr>
<td>ENGN 0490</td>
<td>Fundamentals of Environmental Engineering</td>
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</tr>
<tr>
<td>PHYS 0030</td>
<td>Basic Physics A</td>
<td></td>
</tr>
<tr>
<td>PHYS 0050</td>
<td>Foundations of Mechanics</td>
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Climate (choose one):

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>EEPS 0850</td>
<td>Weather and Climate</td>
<td></td>
</tr>
<tr>
<td>EEPS 1430</td>
<td>Principles of Planetary Climate</td>
<td></td>
</tr>
<tr>
<td>ENGN 1931R</td>
<td>The Chemistry of Environmental Pollution</td>
<td></td>
</tr>
<tr>
<td>ENVS 1245</td>
<td>Air Pollution &amp; Chemistry</td>
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</table>

Policy (choose one):

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ANTH 1601</td>
<td>Reimagining Climate Change</td>
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</tr>
<tr>
<td>ECON 1340</td>
<td>Economics of Global Warming</td>
<td></td>
</tr>
<tr>
<td>ENVS 1350</td>
<td>Environmental Economics and Policy</td>
<td></td>
</tr>
<tr>
<td>ENVS 1415</td>
<td>Power, Justice, and Climate Change</td>
<td></td>
</tr>
<tr>
<td>ENVS 1574</td>
<td>Climate Policy Research: Organizations and Obstruction</td>
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</table>

**Track 2 - Conservation Science and Policy**

Ecology:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>BIOL 0420</td>
<td>Principles of Ecology</td>
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</table>

Conservation:

<table>
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<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BIOL 1470</td>
<td>Conservation Biology</td>
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</table>

Ecology & Conservation Topics: Select One

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<thead>
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<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 0380</td>
<td>The Ecology and Evolution of Infectious Disease</td>
<td></td>
</tr>
<tr>
<td>BIOL 1155</td>
<td>Hormones and Behavior</td>
<td></td>
</tr>
<tr>
<td>BIOL 1450</td>
<td>Community Ecology</td>
<td></td>
</tr>
<tr>
<td>BIOL 1480</td>
<td>Terrestrial Biogeochemistry and the Functioning of Ecosystems</td>
<td></td>
</tr>
<tr>
<td>BIOL 1515</td>
<td>Conservation in the Genomics Age</td>
<td></td>
</tr>
<tr>
<td>CLPS 1195</td>
<td>Life Under Water in the Anthropocene</td>
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</table>

Policy: Select One

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTH 1601</td>
<td>Reimagining Climate Change</td>
<td></td>
</tr>
<tr>
<td>ENVS 0715</td>
<td>Political Ecology</td>
<td></td>
</tr>
<tr>
<td>ENVS 1415</td>
<td>Power, Justice, and Climate Change</td>
<td></td>
</tr>
<tr>
<td>ENVS 1555</td>
<td>Local Food Systems and Urban Agriculture</td>
<td></td>
</tr>
<tr>
<td>ENVS 1574</td>
<td>Climate Policy Research: Organizations and Obstruction</td>
<td></td>
</tr>
<tr>
<td>ENVS 1615</td>
<td>Making Connections: The Environmental Policy Process</td>
<td></td>
</tr>
<tr>
<td>ENVS 1805</td>
<td>Ocean Governance and Policy</td>
<td></td>
</tr>
<tr>
<td>ENVS 1916</td>
<td>Animals and Plants in Chinese History</td>
<td></td>
</tr>
<tr>
<td>ENVS 1925</td>
<td>Energy Policy and Politics</td>
<td></td>
</tr>
<tr>
<td>POLS 1015</td>
<td>Politics and Nature</td>
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</tr>
<tr>
<td>POLS 1435</td>
<td>Politics of Climate Change</td>
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</tr>
<tr>
<td>POLS 2345</td>
<td>Eco-Democracy</td>
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Statistics: Select One

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<th>Course Title</th>
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<tr>
<td>APMA 0650</td>
<td>Essential Statistics</td>
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<tr>
<td>APMA 1650</td>
<td>Statistical Inference I</td>
<td></td>
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<tr>
<td>BIOL 0495</td>
<td>Statistical Analysis of Biological Data</td>
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<tr>
<td>CLPS 0900</td>
<td>Statistical Methods</td>
<td></td>
</tr>
<tr>
<td>ECON 1620</td>
<td>Introduction to Econometrics</td>
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</tr>
<tr>
<td>SOC 1100</td>
<td>Introductory Statistics for Social Research</td>
<td></td>
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</table>

**Track 3 – Environment and Inequality**

Track Intro Course:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ENVS 0705</td>
<td>Equity and the Environment: Movements, Scholarship, Solutions</td>
<td></td>
</tr>
</tbody>
</table>

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
### Undergraduate Concentrations

**Race, Class, and Gender Inequality: Select One**
- **AFRI 0090** An Introduction to Africana Studies
- **AFRI 0210** Afro Latin Americans and Blackness in the Americas
- **AFRI 0830** How Structural Racism Works
- **AFRI 1920** Health Inequality in Historical Perspective
- **ANTH 1622** Archaeology of Settler Colonialism
- **ANTH 1624** Indians, Colonists, and Africans in New England
- **ECON 1370** Race and Inequality in the United States
- **ETHN 1000** Introduction to American/Ethnic Studies
- **HIST 0150D** Refugees: A Twentieth-Century History
- **HIST 0203** Modern Africa: From Empire to Nation-State
- **HIST 1972J** Racial Capitalism and U.S. Liberal Empire
- **SOC 0230** Sex, Gender, and Society
- **SOC 1270** Race, Class, and Ethnicity in the Modern World
- **SOC 1490** Power, Knowledge and Justice in Global Social Change

**Environment and Inequality: Select One**
- **ENVS 0715** Political Ecology
- **ENVS 1247** Clearing the Air: Environmental Studies of Pollution
- **ENVS 1552** Science and Power: The Corruption of Environmental Health
- **HIST 0270A** From Fire Wielders to Empire Builders: Human Impact on the Global Environment before 1492
- **HIST 0270B** From the Columbian Exchange to Climate Change: Modern Global Environmental History
- **PHP 0720** Public Health and the Environment
- **PHP 1700** Current Topics in Environmental Health
- **SOC 0250** An Environmental Sociology for a Rapidly Warming World

**Tools: Select One**
- **ANTH 1940** Ethnographic Research Methods
- **APMA 1650** Statistical Inference I
- **ECON 1620** Introduction to Econometrics
- **EEPS 0830** Water in Our World
- **EEPS 0850** Weather and Climate
- **EEPS 1247** Clearing the Air: Environmental Studies of Pollution
- **EEPS 1430** Principles of Planetary Climate
- **EEPS 1960X** Ocean, Cryosphere, and Sea Level Change
- **ENGN 1342** Groundwater Flow and Transport
- **ENGS 1911** Narrating the Anthropocene
- **ENGS 1925** Making Connections: The Environmental Policy Process

**Environment History: Select One**
- **ENVS 1557** Birding Communities
- **ENVS 1916** Animals and Plants in Chinese History
- **HIST 0270A** From Fire Wielders to Empire Builders: Human Impact on the Global Environment before 1492
- **HIST 0270B** From the Columbian Exchange to Climate Change: Modern Global Environmental History
- **HIST 0576A** The Arctic: Global History from the Dog Sled to the Oil Rig
- **HIST 1360** Amazonia from the Prehuman to the Present
- **HIST 1820B** Environmental History of East Asia
- **HIST 1976I** Imperialism and Environmental Change
- **HIST 1976J** Earth Histories: From Creation to Countdown
- **PHUM 1904** Power + Water: Material Culture and its Environmental Impact

**Policy: Select One**
- **ENVS 0715** Political Ecology
- **ENVS 1350** Environmental Economics and Policy
- **ENVS 1555** Local Food Systems and Urban Agriculture
- **ENVS 1574** Climate Policy Research: Organizations and Obstruction
- **ENVS 1615** Making Connections: The Environmental Policy Process
- **ENVS 1805** Ocean Governance and Policy
- **ENVS 1925** Energy Policy and Politics
- **POLS 1015** World of Food: Personal to Global Perspectives on Nutrition, Agriculture and Policy
- **POLS 1015** Politics and Nature

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
POLS 1435 Politics of Climate Change
POLS 2345 Eco-Democracy
Tools: Select One
APMA 1650 Statistical Inference I
EEPS 1320 Introduction to Geographic Information Systems for Environmental Applications
EEPS 1330 Global Environmental Remote Sensing
ENVS 1911 Narrating the Anthropocene
SOC 1340 Principles and Methods of Geographic Information Systems

Track 5 - Sustainability in Development

Environment and Development: Select One
ENVS 0715 Political Ecology
ENVS 1247 Clearing the Air: Environmental Studies of Pollution
ENVS 1415 Power, Justice, and Climate Change
ENVS 1580 Environmental Stewardship and Resilience in Urban Systems
PHUM 1904 Power + Water: Material Culture and its Environmental Impact
SOC 1490 Power, Knowledge and Justice in Global Social Change

Policy: Select Two
ENVS 1350 Environmental Economics and Policy
ENVS 1555 Local Food Systems and Urban Agriculture
ENVS 1574 Climate Policy Research: Organizations and Obstruction
ENVS 1615 Making Connections: The Environmental Policy Process
ENVS 1805 Ocean Governance and Policy
ENVS 1925 Energy Policy and Politics
POLS 1015 Politics and Nature
POLS 1200 Reimagining Capitalism
POLS 1435 Politics of Climate Change
POLS 1822I Geopolitics of Oil and Energy
POLS 2345 Eco-Democracy

Tools: Select One
ANTH 1940 Ethnographic Research Methods
APMA 1650 Statistical Inference I
ECON 1620 Introduction to Econometrics
EEPS 1320 Introduction to Geographic Information Systems for Environmental Applications
EEPS 1330 Global Environmental Remote Sensing
ENVS 1911 Narrating the Anthropocene
SOC 1020 Methods of Social Research
SOC 1100 Introductory Statistics for Social Research
SOC 1117 Focus Groups for Market and Social Research
SOC 1340 Principles and Methods of Geographic Information Systems

Critical Perspectives: Select One
ECON 1370 Race and Inequality in the United States
ECON 1530 Health, Hunger and the Household in Developing Countries
ENVS 0705 Equity and the Environment: Movements, Scholarship, Solutions
IAPA 1804S Critical Study of Development
POLS 1200 Reimagining Capitalism
SOC 0150 Economic Development and Social Change
SOC 0250 An Environmental Sociology for a Rapidly Warming World
SOC 1040 World Population Problems
SOC 1490 Power, Knowledge and Justice in Global Social Change

Total Credits 13-14

1 The ECON 0110 core requirement can be waived for students with an AP exam score of 4 or 5 in both Microeconomics and Macroeconomics, or minimum score of 6 in ‘IB HL Economics’.

2 The core requirement of ENVS 0490 can be waived for students with an AP exam score of 5 in Environmental Science.

Requirements for the Sc.B. Degree

Requires ALL 13-14 course requirements as listed in the A.B. Program

Additional Track specific requirements for the Sc.B. 5

Track 1 - Air, Climate, and Energy

Math:
MATH 0090 Single Variable Calculus, Part I 1

Policy (choose one):
ANTH 1601 Reimagining Climate Change
ECON 1340 Economics of Global Warming
ENVS 1350 Environmental Economics and Policy
ENVS 1415 Power, Justice, and Climate Change
ENVS 1574 Climate Policy Research: Organizations and Obstruction
ENVS 1615 Making Connections: The Environmental Policy Process
ENVS 1805 Ocean Governance and Policy
ENVS 1925 Energy Policy and Politics
POLS 1015 Politics and Nature
POLS 1435 Politics of Climate Change
POLS 1822I Geopolitics of Oil and Energy
POLS 2345 Eco-Democracy

Tools (choose one):
APMA 0340 Methods of Applied Mathematics II
APMA 0650 Essential Statistics
APMA 1650 Statistical Inference I
ECON 1620 Introduction to Econometrics
EEPS 1320 Introduction to Geographic Information Systems for Environmental Applications
EEPS 1330 Global Environmental Remote Sensing
ENVS 1911 Narrating the Anthropocene
SOC 1100 Introductory Statistics for Social Research

Climate and Thermal Change (choose two):
BIOL 1480 Terrestrial Biogeochemistry and the Functioning of Ecosystems
EEPS 0230 Geochemistry: Earth and Planetary Materials and Processes
EEPS 1110 Descriptive Coastal and Estuarine Oceanography
EEPS 1120 Paleoclimatology
EEPS 1370 Environmental Geochemistry
EEPS 1510 Introduction to Atmospheric Dynamics
EEPS 1520 Ocean Circulation and Climate
EEPS 1960X Ocean, Cryosphere, and Sea Level Change
ENGN 0720 Thermodynamics
ENGN 1710 Principles of Heat Transfer
ENGN 1930M Industrial Design
ENGN 1931R The Chemistry of Environmental Pollution

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>ENVS 1247</td>
<td>Clearing the Air: Environmental Studies of Pollution</td>
</tr>
<tr>
<td><strong>Track 2 - Conservation Science and Policy</strong></td>
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<td>Math: Select One</td>
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<tr>
<td>MATH 0090</td>
<td>Single Variable Calculus, Part I 1</td>
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<tr>
<td>Evolution: Select One</td>
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<tr>
<td>BIOL 0480</td>
<td>Evolutionary Biology</td>
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<tr>
<td>BIOL 1515</td>
<td>Conservation in the Genomics Age</td>
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<td>Organismal Diversity: Select One</td>
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<td>BIOL 0410</td>
<td>Invertebrate Zoology</td>
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<tr>
<td>BIOL 0430</td>
<td>The Evolution of Plant Diversity (BIOL 0460 - Insect Biology)</td>
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<tr>
<td>BIOL 0440</td>
<td>Inquiry in Plant Biology: Analysis of Plant Growth, Reproduction and Adaptive Responses</td>
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<tr>
<td>BIOL 0450</td>
<td>Evolutionary Behavioral Ecology</td>
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<tr>
<td>BIOL 0940D</td>
<td>Rhode Island Flora: Understanding and Documenting Local Plant Diversity</td>
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<td>Env. Econ: Select One</td>
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<tr>
<td>ECON 1340</td>
<td>Economics of Global Warming</td>
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<tr>
<td>ECON 1355</td>
<td>Environmental Issues in Development Economics</td>
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<tr>
<td>ENVS 1350</td>
<td>Environmental Economics and Policy</td>
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<tr>
<td>Tools: Select One</td>
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<tr>
<td>EEPS 1320</td>
<td>Introduction to Geographic Information Systems for Environmental Applications</td>
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<tr>
<td>EEPS 1330</td>
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<td>ENVS 1911</td>
<td>Narrating the Anthropocene</td>
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<tr>
<td>SOC 1340</td>
<td>Principles and Methods of Geographic Information Systems</td>
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<tr>
<td>SOC 2610</td>
<td>Spatial Thinking in Social Science</td>
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<tr>
<td><strong>Track 3 – Environment and Inequality</strong></td>
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<tr>
<td>Tools: Select One</td>
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<tr>
<td>ANTH 1940</td>
<td>Ethnographic Research Methods</td>
</tr>
<tr>
<td>ECON 1620</td>
<td>Introduction to Econometrics</td>
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<tr>
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<td>Introduction to Geographic Information Systems for Environmental Applications</td>
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<tr>
<td>EEPS 1330</td>
<td>Global Environmental Remote Sensing</td>
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<tr>
<td>ENVS 1911</td>
<td>Narrating the Anthropocene</td>
</tr>
<tr>
<td>SOC 1020</td>
<td>Methods of Social Research</td>
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<tr>
<td>SOC 1100</td>
<td>Introductory Statistics for Social Research</td>
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<tr>
<td>SOC 1117</td>
<td>Focus Groups for Market and Social Research</td>
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<tr>
<td>SOC 1340</td>
<td>Principles and Methods of Geographic Information Systems</td>
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<tr>
<td>SOC 2610</td>
<td>Spatial Thinking in Social Science</td>
</tr>
<tr>
<td>Race, Class and Gender Inequality: Select One</td>
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<tr>
<td>ECON 1370</td>
<td>Race and Inequality in the United States</td>
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<tr>
<td>ETHN 1200I</td>
<td>History and Resistance in Representations of Native Peoples</td>
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<tr>
<td>PHP 2365</td>
<td>Public Health Issues in LGBT Populations</td>
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<tr>
<td>SOC 1270</td>
<td>Race, Class, and Ethnicity in the Modern World</td>
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<tr>
<td>SELECT A FOCUS AREA (pick three courses from only one focus area)</td>
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<tr>
<td>FOCUS ONE - Environmental Inequality in Globalization and Development: Select Three</td>
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</tr>
<tr>
<td>ECON 1355</td>
<td>Environmental Issues in Development Economics</td>
</tr>
<tr>
<td>ECON 1530</td>
<td>Health, Hunger and the Household in Developing Countries</td>
</tr>
<tr>
<td>ENVS 0715</td>
<td>Political Ecology</td>
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<td>FOCUS TWO - Environmental Health and Inequality: Select Three</td>
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<td>AFRI 1920</td>
<td>Health Inequality in Historical Perspective</td>
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<tr>
<td>ANTH 1310</td>
<td>Global Health: Anthropological Perspectives</td>
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<tr>
<td>BIOL 1820</td>
<td>Environmental Health and Disease</td>
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<td>ENVS 1552</td>
<td>Science and Power: The Corruption of Environmental Health</td>
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<td>PHP 0320</td>
<td>Introduction to Public Health</td>
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<td>PHP 0330</td>
<td>Public Health Policy</td>
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<td>PHP 0720</td>
<td>Public Health and the Environment</td>
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<td>PHP 1070</td>
<td>Global Burden of Disease</td>
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<tr>
<td>PHP 1101</td>
<td>World of Food: Personal to Global Perspectives on Nutrition, Agriculture and Policy</td>
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<tr>
<td>PHP 1650</td>
<td>Race, Racism and Health</td>
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<tr>
<td>PHP 1700</td>
<td>Current Topics in Environmental Health</td>
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<td>PHP 1710</td>
<td>Climate Change and Human Health</td>
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<tr>
<td>PHP 1920</td>
<td>Social Determinants of Health</td>
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<tr>
<td>PHP 2365</td>
<td>Public Health Issues in LGBT Populations</td>
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<td>FOCUS THREE - Environmental Inequalities in Food, Water, and Energy: Select Three</td>
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<tr>
<td>EEPS 0830</td>
<td>Water in Our World</td>
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<tr>
<td>ENVS 1415</td>
<td>Power, Justice, and Climate Change</td>
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<tr>
<td>ENVS 1555</td>
<td>Local Food Systems and Urban Agriculture</td>
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<td>ENVS 1580</td>
<td>Environmental Stewardship and Resilience in Urban Systems</td>
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<td>ENVS 1805</td>
<td>Ocean Governance and Policy</td>
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<td>ENVS 1915</td>
<td>Histories of Global Wetlands</td>
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<td>ENVS 1925</td>
<td>Energy Policy and Politics</td>
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<tr>
<td>PHUM 1904</td>
<td>Power + Water: Material Culture and its Environmental Impact</td>
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<tr>
<td><strong>Track 4 - Land, Water &amp; Food Security</strong></td>
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<td>Math: Select One</td>
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<td>MATH 0090</td>
<td>Single Variable Calculus, Part I 1</td>
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<tr>
<td>Chemistry: Select One</td>
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<tr>
<td>CHEM 0330</td>
<td>Equilibrium, Rate, and Structure</td>
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<td>Earth/Life Systems: Select Three</td>
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<td>BIOL 1470</td>
<td>Conservation Biology</td>
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<td>BIOL 1480</td>
<td>Terrestrial Biogeochemistry and the Functioning of Ecosystems</td>
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<td>EEPS 0240</td>
<td>Earth: Evolution of a Habitable Planet</td>
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<td>Water in Our World</td>
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<td>EEPS 1110</td>
<td>Descriptive Coastal and Estuarine Oceanography</td>
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<tr>
<td>EEPS 1120</td>
<td>Paleocoeanography</td>
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<tr>
<td>EEPS 1130</td>
<td>Ocean Biogeochemical Cycles</td>
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</tbody>
</table>
Brown University

Environmental Studies

Ethnic Studies is an interdisciplinary, comparative concentration that examines the construction of race and ethnicity in social, cultural, historical, political, and economic contexts. Concentrators develop individual programs based on areas of focus in consultation with faculty advisors, drawing from courses in the humanities and social sciences.

Honors

Students interested in graduating with honors in their concentration must complete a thesis determined to be of the highest quality and must have excelled in their coursework required for the concentration, which is defined here as receiving a grade of "A" in the majority of courses taken to fulfill the concentration. You can learn more by visiting the honors page (https://www.brown.edu/academics/institute-environment-society/education/undergraduate/honors/) on the IBES website.

Environmental Studies

Ethnic Studies concentration (https://www.brown.edu/academics/american-studies/ethnic-studies/) at Brown emphasizes the histories of diverse racial groups within and across the borders of the United States, including examining issues of diaspora, migration, social movements, and the political economies of social inequality and racial formation. Concentrators strive for intellectual fluency in a range of critical approaches to race and ethnicity across disciplines, and demonstrate this fluency through the composition or creation of a significant piece of original research or creative work.

Brown University established an Ethnic Studies concentration in 1996, originally within the Center for the Study of Race and Ethnicity in America (https://www.brown.edu/academics/race-ethnicity/) (CSREA). In the Fall of 2013, as part of changes to the CSREA and to better support students, Ethnic Studies joined a long established Brown department, American Studies (https://www.brown.edu/academics/american-studies/people/) work in the areas of race and ethnicity and have held joint appointments in Ethnic and American Studies (CSREA). In the Fall of 2013. 

Typical areas of focus are social issues (such as inequality, education, or health), cultural production and the representation of racial groups, processes of racialization, the historical formation of transnational communities and of diaspora, and the history of particular ethnic or racial groups.

The Ethnic Studies concentration examines the construction of race and ethnicity in social, cultural, historical, political, and economic contexts. Concentrators develop individual programs based on areas of focus in consultation with faculty advisors, drawing from courses in the humanities and social sciences.

As an academic field, Ethnic Studies is rooted in the protests of the 1960s and 1970s, out which emerged the very first Latino/a Studies, Asian American Studies, African American Studies, and Native American studies programs. Organized around straightforward political goals – the enrichment through diversification of the curriculum and the systematic, multi-disciplinary, and the often comparative study of racial and ethnic inequality – Ethnic Studies has become an important feature of major research universities.

Students interested in graduating with honors in their concentration must complete a thesis determined to be of the highest quality and must have excelled in their coursework required for the concentration, which is defined here as receiving a grade of "A" in the majority of courses taken to fulfill the concentration. You can learn more by visiting the honors page (https://www.brown.edu/academics/institute-environment-society/education/undergraduate/honors/) on the IBES website.

Honors

Students interested in graduating with honors in their concentration must complete a thesis determined to be of the highest quality and must have excelled in their coursework required for the concentration, which is defined here as receiving a grade of "A" in the majority of courses taken to fulfill the concentration. You can learn more by visiting the honors page (https://www.brown.edu/academics/institute-environment-society/education/undergraduate/honors/) on the IBES website.

1 The track requirement of MATH 0090 can be waived for students with an AP exam of 4 or 5 on Calc AB, or students with an AP exam score of 4 or 5 on Calc BC in place of MATH 0090 & 0100

Total Credits 18-19

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
### Requirements for Students Who Declare Spring 2021 and Beyond

The concentration requires 10 classes. More specifically, concentrators must take:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETHN 1000</td>
<td>Introduction to American/Ethnic Studies</td>
<td>1</td>
</tr>
<tr>
<td>Any two courses from the ETHN 1200 &quot;Topics in Ethnic Studies&quot; or ETHN 1750 &quot;Advanced Topics in Ethnic Studies&quot; sequence, or similar electives in AMST, as approved by the advisor</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Five classes that address the student's focus area and that prepare them for the capstone experience. At least two of these classes must bear an ETHN designation.</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

Of the other three classes, only one may be a Departmental Independent Study Project (DISP). If a student pursues that option, the class must be undertaken with core faculty, all of whom are listed on the department website, and must be offered under an ETHN course number. Students may count two lower-level classes (below 1000-level) offered under the AMST or ETHN prefix - or cross-listed with either American Studies or Ethnic Studies - towards the focus area.

Students must take any two classes under either the AMST or ETHN prefixes that have been tagged with a specific method. Each class must be tagged with a different method. These classes can count for any other concentration requirement.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>An AMST 1700 Junior Seminar</td>
<td>1</td>
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<tr>
<td>ETHN 1900 the &quot;Ethnic Studies Senior Seminar&quot;</td>
<td>1</td>
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</tbody>
</table>

**Total Credits**: 10

### Requirements for Students Who Declare Prior to Spring 2021

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETHN 1000</td>
<td>Introduction to American/Ethnic Studies</td>
<td>1</td>
</tr>
<tr>
<td>Any two courses from the ETHN 1200 &quot;Topics in Ethnic Studies&quot; or ETHN 1750 &quot;Advanced Topics in Ethnic Studies&quot; sequence, or similar electives in AMST, as approved by the advisor</td>
<td>2</td>
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</tr>
<tr>
<td>ETHN 1200B</td>
<td>Contemporary Indigenous Education in North America</td>
<td>1</td>
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<tr>
<td>ETHN 1200D</td>
<td>Latinx Literature</td>
<td>1</td>
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<tr>
<td>ETHN 1750A</td>
<td>Immigrant Social Movements: Bridging Theory and Practice</td>
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<tr>
<td>ETHN 1750B</td>
<td>Treaty Rights and Food Fights: Eating Local in Indian Country</td>
<td>1</td>
</tr>
<tr>
<td>ETHN 1750D</td>
<td>Transpacific Asian American Studies</td>
<td>1</td>
</tr>
<tr>
<td>ETHN 1750E</td>
<td>Transpacific Popular Culture</td>
<td>1</td>
</tr>
<tr>
<td>Four classes that address the student's focus area and that prepare them for the capstone experience. At least two of these classes must bear an ETHN designation. Of the other two classes, only one may be a Department Independent Study Project (DISP). If a student pursues that option, the class must be undertaken with core faculty, all of whom are listed on the department website, and it must be offered under an ETHN course number. Please consult the following guidelines for designing a DISP. Please note a Department Independent Study Project Form and a draft syllabus will be due to the Director of Undergraduate Studies no later than two weeks into the semester the DISP takes place.</td>
<td>4</td>
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<tr>
<td>ETHN 1650</td>
<td>Methods and Approaches in Ethnic Studies</td>
<td>1</td>
</tr>
<tr>
<td>American Studies seminar in the AMST 1700 series</td>
<td>1</td>
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<tr>
<td>AMST 1700D</td>
<td>Race and Remembering</td>
<td>1</td>
</tr>
<tr>
<td>AMST 1700F</td>
<td>American Publics</td>
<td>1</td>
</tr>
<tr>
<td>AMST 1700I</td>
<td>Community Engagement with Health and the Environment</td>
<td>1</td>
</tr>
<tr>
<td>AMST 1700K</td>
<td>Race in the Americas: A Hemispheric Perspective</td>
<td>1</td>
</tr>
</tbody>
</table>

**Total Credits**: 10

Courses taken toward the fulfillment of concentration requirements must be at or above the 1000 level. At the advisor's discretion, a student may count a single course below the 1000 level towards their requirements. This class must be taught by a core faculty member listed on the department's website and may be offered through another department.

### Honors:

Admittance to the Ethnic Studies Honors Program requires:

1. A 3.5 GPA in concentration courses
2. A 3.0 overall GPA
3. The standard concentration ([https://www.brown.edu/academics/american-studies/ethnic-studies-requirements-prior-7117/](https://www.brown.edu/academics/american-studies/ethnic-studies-requirements-prior-7117/))
4. AMST/ETHN 1800 the Honors Seminar in the sixth semester
5. An Honors Thesis Proposal and an application for the Ethnic Studies Honors Program (see below for link to application)
6. Two independent studies, taken in the 7th and 8th semester, with the Director of your honors thesis
7. A completed project, delivered the third week of April if student is a May graduate (the first Monday of December if the student is a May graduate).

Students completing in December 2020 or May 2021 should refer to the department's site ([https://www.brown.edu/academics/american-studies/senior-year-honors-schedule-ay-2020-2021/](https://www.brown.edu/academics/american-studies/senior-year-honors-schedule-ay-2020-2021/)) for specific dates, adjusted due to the adjusted term schedule.

8. A recommendation for honors from both readers

Students must define their honors project in a proposal by early May (in accordance with the due dates established in the honors seminar, AMST/ETHN 1800) or near the end of their sixth semester. The proposal is comprised of a five-page, double-spaced project description along with a bibliography of relevant sources. More details on the proposal can be found here ([https://www.brown.edu/academics/american-studies/american-studies-honors-thesis-prospectus/](https://www.brown.edu/academics/american-studies/american-studies-honors-thesis-prospectus/)).

This proposal must be submitted for approval to the Director of Undergraduate Studies (DUS) along with the application for the Ethnic Studies Honors Program form on the same date that it is submitted in the honors seminar. The proposal should identify the problem, or question the student will focus on, and suggest approaches and possible hypotheses or outcomes. Students need to work with two professors – a director and a reader. At least one should be Ethnic Studies faculty. The proposal should name a confirmed director (who must sign your application form) and a likely second reader (who will need to confirm their participation at the beginning of your 7th semester). If a student wants to work with two professors, neither of whom is Ethnic Studies faculty, then they should have a third reader who will read the final draft or consult on the final project and approve it for honors in the field. Students deciding not to do an honors thesis after completing the Honors Seminar will receive credit for the course and still be able to count it as a seminar in the concentration.

Concentrators studying abroad during the second semester of the junior year, when the Honors Seminar is offered, may waive the Honors Seminar with permission of the DUS prior to the beginning of the senior year. Such a waiver of the Honors Seminar will be predicated on the submission of a detailed plan for the honors project approved by a faculty director with a confirmed second reader submitted to the DUS in the first two weeks of the senior year.

An updated thesis proposal, confirming a second thesis reader, will be due for all thesis writers within the first two weeks of the senior year. In their seventh and eight semesters, students seeking honors will enroll in an independent study class (ETHN 1910) with their director during which they will follow through on the plan devised in the spring of their junior year. Students and thesis directors should plan on at least a monthly meeting to discuss the research, writing and revision of sections of the thesis. In addition to meeting with their director, students should also plan to meet their second reader during this time. Guidelines for thesis directors...
and readers can be found here (https://www.brown.edu/academics/american-studies/american-studies-honors-thesis-directors-and-readers/).

In their eighth semester, the deadline for a finished full draft of their project is the third Friday in April (for May graduates) or the first Monday in December (for December graduates). Students should turn in a pdf of a completed (proofread, formatted, fully written) draft to their readers by that day. Of course, students will turn chapters to the director and reader before that, according to their recommendations, but the third Friday of April (or first Monday in December) is the absolute deadline to turn in a pdf of the final draft.

A signed and bound copy of the thesis is due to the department one week after submission of the pdf where it will be available for one year and then sent to the Hay Library.

All official readers must recommend the project for honors, indicated by their signature on your cover sheet and the director's written report.

When written as formal research papers, honors theses are generally between 50-100 pages. When there is a creative or public component, students should work closely with their faculty team to determine the appropriate length of the written accompaniment.

Students will make a public presentation of their work to the Ethnic Studies faculty during the first week of May for May graduates and mid-December for December graduates.

**French and Francophone Studies**

The concentration in French and Francophone Studies is committed to the pursuit of an interdisciplinary, linguistically rigorous, and textually informed understanding of French and Francophone literatures and cultures.

Concentrators engage actively through their coursework with a wide range of texts and critical perspectives, pertaining to multiple literary genres, media, and contexts. They have opportunities to study different periods of French history as well as Francophone cultures beyond France.

**Concentration Requirements**

A minimum of ten courses is required for the concentration in French and Francophone Studies. Concentrators must observe the following guidelines when planning their concentration. It is recommended that course choices for each semester be discussed with the department’s concentration advisor.

Of the minimum ten courses:

**At least four courses in French and Francophone Studies numbered 950 and above, such as:**

- **FREN 0950A** Advanced Written and Oral French: Traduction
- **FREN 0960A** Ateliers d'écriture
- **FREN 1070M** La question animale
- **FREN 1110F** Le Roman contemporain
- **FREN 1120F** L’enfer, c’est les autres
- **FREN 1130G** Modernismes poétiques
- **FREN 1210F** L’œuvre romanesque de Marguerite Duras
- **FREN 1310N** La Pornographie
- **FREN 1310P** La théorie féministe en France
- **FREN 1410X** Dés/Accords franco-américains

**At least one course covering a pre-Revolutionary period (i.e. a course focusing on medieval, Renaissance, 17th or 18th century France), such as:**

- **FREN 1000B** Littérature et culture: Chevaliers, sorcières, philosophes, et poètes
- **FREN 1040B** Pouvoirs de la scène: le théâtre du XVIIe siècle
- **FREN 1040C** Le Grand Siècle à l’écran
- **FREN 1040D** Mioli et son monde
- **FREN 1410I** Sorcellerie et Renaissance: le sort de la sorcière

At least one course focusing primarily on a Francophone literature or a cultural context other than that of France, such as:

- **FREN 1410R** Images d’une guerre sans nom: The Algerian War in Literature and Film
- **FREN 1410T** L’expérience des refugies: déplacements, migrations
  - FREN 0600, FREN 0610, and FREN 0620(Avanced French) and FREN720 (First Year Seminar) may count for concentration credit

Additional guidelines:

- A senior capstone project (https://www.brown.edu/academics/french-studies/undergraduate/senior-capstone/) will be completed during the senior year.
- Up to four courses (taken in French) from a semester’s study abroad (and up to five courses from a full year abroad) may count towards the concentration. A year or semester of study abroad in France or a Francophone country is considered an integral part of the concentration and is therefore highly recommended. Students should consult the concentration advisor prior to going abroad to find out which types of courses will count for the concentration.
- Up to two 1000-level courses taught in English with a meaningful engagement with French/Francophone texts and/or contexts may be accepted for concentration credit. These may be courses offered within the Department of French and Francophone Studies or other departments at Brown. (Appropriate courses on French or Francophone topics from other departments must be approved by the concentration advisor.)
  - **FREN 1140A** French Theory
  - **FREN 1150G** New Wave Cinema from Paris to Hollywood
  - **FREN 1330A** Fairy Tales and Culture
  - **HIST 1272D** The French Revolution
  - **MUSC 1677** Music and Culture in Third Republic France

The Concentration Advisor for the Department of French and Francophone Studies, Prof. Lewis Seifert (fall 2021), will be happy to discuss the concentration program in French and Francophone Studies with interested students.

**The Senior Capstone**

The senior capstone is a research project, a translation or a piece of creative work undertaken by all concentrators of French and Francophone Studies in their final year. As a culminating piece of work for their concentration, it is a conceptually rigorous, in-depth treatment of a subject (or a body of work) within French and Francophone Studies, and an opportunity for concentrators to demonstrate the specific strengths and forms of competence—linguistic, analytic, interpretive, critical, theoretical, cultural—developed in the course of the concentration. The learning goals of the capstone project include: building on writing proficiency in French, demonstrating critical reasoning skills, and showing, in writing, the ability to engage thoughtfully with salient questions of French and/or Francophone culture.

The senior capstone experience is usually fulfilled by a research essay completed for a 1000-level (or a 2000-level) course taken in the department during the senior year. In some cases, where appropriate to the course materials and focus, the capstone project may take the form of a work of translation or a piece of creative writing. The project will be 8-12 pages in length and will be written in French. By mid-semester, students will submit to the professor of the course a 300-word statement of the objectives and methods of the project. Students will then meet with the professor to discuss plans for the project. At the end of the academic year, students will give a presentation of 5-7 minutes on their projects at the annual Senior Forum. The professor evaluating the project will inform the DUS of successful completion of the capstone project.

In the case of students pursuing Honors, the senior thesis fulfills the role of the senior capstone.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
The senior capstone is intended as a meaningful scholarly experience where concentrators may follow their intellectual passions and best express their growth as students of French and Francophone Studies. Concentrators should discuss their plans for the senior capstone with the Concentration Advisor at the end of their junior year or the beginning of their senior year.

Honors
The Honors Program welcomes applications from students who wish to deepen their study of French and Francophone literature and culture by pursuing during their senior year an independent research-based inquiry into a particular set of texts or questions (literary, historical, cultural, theoretical or linguistic), a translation project or a creative work under the supervision of a thesis advisor. Students may earn honors in the concentration by successfully presenting a thesis, for the preparation of which they will normally enroll in FREN 1990 in either or both semesters of their senior year.

Eligibility and Application Procedure
Candidates for honors in French Studies are expected to have a strong track record in courses taken for their concentration, and will have completed at least two-thirds of the courses required for the concentration (6 courses) by the application deadline.

Applications for admission to the Honors Program are submitted by the end of September in the student's seventh semester. This means that the candidate ideally begin to think of their thesis project, and establish contact with a potential thesis advisor by the end of the spring semester of their junior year or in the first weeks of the fall semester of their senior year. Students generally choose as advisor a faculty member with whom they have taken a class, but they are also encouraged to contact others whose specialization aligns with their interests. If in doubt, the concentration advisor can be consulted for suggestions of an appropriate advisor. (Note that faculty may not be easily to contact over the summer. Students are thus advised to seek contact during the academic year.) For the application (form available below), the student will provide a brief thesis proposal (1 or 2 paragraphs in French presenting inquiry into a particular set of texts or questions (literary, historical, cultural, theoretical or linguistic), a translation project or a creative work under the supervision of a thesis advisor. Students may earn honors in the concentration by successfully presenting a thesis, for the preparation of which they will normally enroll in FREN 1990 in either or both semesters of their senior year.

Requirements
Students pursuing honors in French Studies take a minimum of eleven courses. In addition to the standard requirement of ten courses, FREN 1990 (Senior Thesis) is to be taken in either or both semesters of the student’s senior year. This independent study is designed for the student to devote time to thesis research and writing under the supervision of a thesis advisor.

Students must also adhere to the requirements for the Concentration Advisor by September 26 (or the weekday closest to that date). Recommendations from department faculty who have close knowledge of the student’s work, preferably through a course taken by the student during their sophomore or junior year. Please submit these forms to your faculty recommender no later than September 18 (or the weekday closest to that date). They will then be forwarded to the Concentration Advisor who, after reviewing the complete application along with the student’s transcript(s), will make a determination about admission to the Honors Program.

A successful application allows the student to pursue the Honors Thesis Project. Honors is officially granted only when the student’s two readers approve the completed thesis.

The Creative Project: Some students may elect to undertake for their Honors project a creative work. This decision must be made in close consultation with the thesis advisor, so that there is agreement on the level of ambition and interest of such a project. The creative thesis may be a narrative, poetic, theatrical, or experimental/hybrid text. Written in French, it is expected to involve a reading- or research-based dimension. In other words, the creative work will demonstrate meaningful engagement with analogous work in the French/Francophone context, and the pursuit of a certain scholarly intention through creative means—whether to advance knowledge or examination of a certain topic, to experiment with the formal means by which to express or explore a certain issue, or to creatively rewrite an existing work with a view to questioning it or investing it with new meanings. As with the translation thesis, a creative thesis must, to qualify for Honors, include a critical introduction or preface (a minimum of 10 pages) in which the translator demonstrates advanced knowledge of the place of the chosen text in its original cultural and literary context, engages reasonably with scholarship pertaining to the original text, and shows a mature understanding of the stakes and debates of translation as a practice.

The Senior Thesis
Theses ordinarily range from 50 to 80 pages and are written in French. Topics, approach, and precise calendar of work should be decided in close consultation with the thesis advisor. Students are encouraged to consult previous French Honors theses to get a sense of the projects that are possible. At every stage of their research and writing, students are expected to adhere rigorously to Brown University’s Academic Code (http://www.brown.edu/Administration/Dean_of_the_College/curriculum/academic_code.php) which may be consulted online.

The Research Essay: The thesis is usually a research-based essay dealing with primary sources (literary works, historical archives, etc.) consulted and cited in the original French. A meritorious Honors thesis will be written in competent and precise language and evince meaningful internal structure and coherence. It will formulate precisely its framing questions and provide textual support for its propositions while making clear its furthest stakes. While students are encouraged to cultivate the originality of their own questions or perspectives, they are also expected to be in productive dialogue with scholarship in the field. Accordingly, to be awarded Honors, a thesis will demonstrate a consistent citation style and clear and correct attribution of all terms and ideas not the student’s own.

The Translation Thesis: Students may alternatively choose to undertake for their Honors thesis a work of translation. This choice must be made with prudence and in close consultation with the thesis advisor, so that there is agreement on the difficulty level of the chosen text, the argument for translating it, and expected standards of ambition and precision in the translation. Usually the translation will be from English to French, though in some case may be from a non-French source for translation into French. Students may choose to translate a whole work, select excerpts, or a series of texts (as in the case of poems or shorter narratives). In all cases, a translation thesis must, to qualify for French Honors, include a critical introduction or preface (a minimum of 10 pages) in which the translator demonstrates advanced knowledge of the place of the chosen text in its original cultural and literary context, engages reasonably with scholarship pertaining to the original text, and shows a mature understanding of the stakes and debates of translation as a practice.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Honors students will be invited to present their work to members of the Department and fellow and potential French concentrators at the end of term sometime after the April final submission date.

**Calendar of Deadlines:**
Precise details regarding deadlines and nature/length of submissions must be established clearly between the student and his/her advisor. Suggested deadlines for major stages are as follows:
- Submission of Applications to Honors Program - - September 26
- Rough outline of thesis due to thesis advisor by the first week of November
- First portion of written work due to thesis advisor (minimum of 20 pages) by mid-December
- Submission of full draft to both readers by March 10
- Completed thesis submitted to both readers by April 16

## Gender and Sexuality Studies

Gender and Sexuality Studies is an interdisciplinary concentration that examines the construction of gender and sexuality in social, cultural, political, economic, and scientific contexts.

Each Gender and Sexuality Studies (GNSS) concentrator develops a well-defined topic or question and works closely with an advisor to design a program that rigorously investigates their focus area and supplements it with foundational courses in the relevant disciplines.

Graduates of GNSS have focused on topics such as intersex healthcare, trans memoir, queer archival practice, incest in the postbellum South, racial disparities in reproductive healthcare, sex positivity in the #MeToo era, comparative models of sex education, garment workers and environmental justice, and LGBTQ+ migration. Introductory and methodology courses in the discipline appropriate to the concentrator's research area provide knowledge of the principles grounding their research methods in order to deploy disciplinary tools or challenge disciplinary boundaries with intentionality.

More information is available on the Gender and Sexuality Studies website (http://pembroke.brown.edu/academics/undergraduate-concentration/).

### Requirements:
The concentration requires 10 courses, 12 for honors concentrators. No more than two courses may count for multiple concentrations.

1. GNSS 0120. Introductory course on gender and sexuality across the disciplines
2. Four–course focus on some thematic, theoretical, or historical aspect of gender and sexuality
3. Two introductory or methodology courses in disciplines pertinent to the focus
4. One course in gender history, women's history, or history of sexuality
5. One course in feminist theory or theory of sexuality
6. GNSS 1990. A senior seminar which counts as your capstone course. Senior seminar participants are expected to write a research essay. The senior seminar fulfills the second half of Brown's writing requirement.
7. Prior to Commencement, all graduating senior concentrators are required to give a short presentation of either their senior essay or thesis project.

## Honors

Candidates for honors must apply to the program's director at the beginning of their seventh semester. Honors concentrators fulfill the regular requirements plus completing a two–semester thesis as their capstone project.

For more information, please consult the GNSS concentration webpage at https://pembroke.brown.edu/academics/undergraduate-concentration/.

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### Geological Sciences

Geosciences is a highly interdisciplinary concentration employing principles from physics, chemistry, and biology to understand the structure of the Earth and other planetary bodies. Concentrators can study Earth and planetary interiors, including the formation of rocks and minerals, movement of the Earth’s tectonic plates, and the circulation of the planets’ core and mantle. Other areas emphasize surface processes, such as the movement and storage of water. This concentration is a good choice for students who seek a broad scientific understanding of the processes that shape the physical world around us.

Both AB and ScB degrees are offered; the ScB requires more (19) courses, including a research course. DEEPS provides a highly collaborative learning environment that emphasizes process-oriented, hands-on approaches in the classroom, in labs and on field trips. There are many opportunities for students to do research working with faculty, graduate students, and researchers. The degree builds students' skills in critical thinking, written and oral communication, data analysis and modeling, and applying systems approaches to problem solving, which prepare students for a wide variety of careers.

#### Standard program for the A.B. degree

This program provides a broad introduction to the geological sciences. Recommended for students seeking a liberal education and a general understanding of Earth processes and Earth history. Especially attractive for double concentrations, such as geology and economics as a career path to law or business, or geology and English as a career path to journalism or technical writing.

#### Basic supporting science courses

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<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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#### Nine Concentration courses

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<td>Geochemistry: Earth and Planetary Materials and Processes</td>
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<td>EEPS 0240</td>
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<td>Select three of the following:</td>
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<td>3</td>
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<tr>
<td>EEPS 1410</td>
<td>Mineralogy</td>
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<td>EEPS 1420</td>
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<td>EEPS 1450</td>
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<tr>
<td>Two additional upper level EEPS courses or an approved substitute such as a field course</td>
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<tr>
<td>One additional upper level science or math course with approval from the concentration advisor.</td>
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**Total Credits:** 13

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### Standard program for the Sc.B. degree

This program is recommended for students interested in graduate study and careers in the geosciences and related fields.

#### Basic supporting science courses

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<thead>
<tr>
<th>Course</th>
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<tr>
<td>CHEM 0330</td>
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</table>

Four courses to build quantitative skills: | | 15 |

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
<table>
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### Fourteen Concentration courses

- EEPS 0220 Understanding Earth and Environmental Processes 1
- EEPS 0230 Geochemistry: Earth and Planetary Materials and Processes 1
- EEPS 0240 Earth: Evolution of a Habitable Planet 1
- Three of the following: 3
  - EEPS 1240 Stratigraphy and Sedimentation
  - EEPS 1410 Mineralogy
  - EEPS 1420 Petrology
  - EEPS 1450 Structural Geology
- Three additional upper level EEPS courses or an approved substitute such as a field course 3
- Four upper level science or math courses with approval from the concentration advisor 4
- EEPS 1970 Individual Study of Geologic Problems (Senior Research Thesis) 1

**Total Credits: 19**

1 Advanced placement may be substituted for the first semester of physics.

### Geology-Biology

Students in Geology-Biology apply principles from geology, biology, chemistry, and physics to understand how major components of the Earth, such as its atmosphere and oceans, interact with and sustain life in the past, present, and into the future. Many courses emphasize climate change, environmental pollution, and biogeochemistry, so this concentration is a good one for students interested in studying the environment. Other areas emphasize Earth history, including climate change, extinction events, and using the Earth's sedimentary record to investigate environmental change.

Both AB and ScB degrees are offered; the ScB requires more (19) courses, including a research course. DEEPS provides a highly collaborative learning environment that emphasizes process-oriented, hands-on approaches in the classroom, in labs and on field trips. There are many opportunities for students to do research working with faculty, graduate students, and researchers. The degree builds students' skills in critical thinking, written and oral communication, data analysis and modeling, and applying systems approaches to problem solving, which prepare students for a wide variety of careers.

### Standard program for the A.B. degree

This program provides a broad introduction to the geologic and biologic processes that shape the Earth and our environment. It is recommended for students seeking a liberal education and a general understanding of Earth processes, including the evolution of climate and the environment, global environmental change and Earth history. The program prepares students for careers in environmental science, geology, ecology, oceanography, and global change.

#### Basic supporting science courses

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Two courses to build quantitative skills: 2

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<td>EEPS 1970</td>
<td>Individual Study of Geologic Problems</td>
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Select three upper level Biology courses such as: 3

- BIOL 0410 Invertebrate Zoology
- BIOL 0420 Principles of Ecology
- BIOL 0430 The Evolution of Plant Diversity
- BIOL 0480 Evolutionary Biology
- BIOL 1470 Conservation Biology
- BIOL 1480 Terrestrial Biogeochemistry and the Functioning of Ecosystems

Three upper level EEPS courses such as: 3

- EEPS 0850 Weather and Climate
- EEPS 1120 Paleoceanography
- EEPS 1130 Ocean Biogeochemical Cycles
- EEPS 1150 Limnology: The Study of Lakes
- EEPS 1310 Global Water Cycle
- EEPS 1320 Introduction to Geographic Information Systems for Environmental Applications
- EEPS 1370 Environmental Geochemistry
- EEPS 1615 Making Connections: The Environmental Policy Process
- EEPS 1970 Individual Study of Geologic Problems

**Total Credits: 14**

### Standard program for the Sc.B. degree

This program is recommended for students interested in graduate study and careers in the Earth, Environmental, or Biological Sciences. It is relevant for students interested in environmental science, paleoclimate, Earth systems science, biogeochemistry, oceanography, or paleobiology.

#### Five basic supporting science courses

<table>
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Three courses to build quantitative skills: 3

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**Fourteen (14) concentration courses**

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
## Geology-Chemistry

Geochemistry involves two different emphases. Low-temperature geochemistry involves study of chemical and biochemical processes on and near Earth’s surface, including land, ocean, and freshwater bodies, and how the geochemical record reflects climate conditions. High-temperature geochemistry includes study of formation and evolution of the Earth and other planets, magma formation and properties, volcanic activity, and metamorphism. The AB degree requires a total of 14 courses, including 5 geoscience courses and 4 chemistry courses, and a few supporting math and physics courses. The ScB degree requires a total of 20 courses, including 7 geoscience courses and 4 chemistry courses, and a few supporting math and physics courses. Either with an organic or an inorganic focus, plus some supporting math and physics courses and one research course. Geoscience courses emphasize a process-oriented approach, with hands-on experiences in labs and on field trips. There is a strong emphasis on active and collaborative learning, and on practice in communication. There are many opportunities for students to do research work for pay during the academic year or in the summer, in areas such as experimental studies of magma formation, and analyzing lunar rock samples for water content.

### Standard program for the A.B. degree

Recommended for students seeking a liberal education and interested in applying physical and chemical principles toward an understanding of Earth history, Earth processes, and environmental and resource issues.

### Four basic supporting science courses

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### Three courses to build quantitative skills:

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### Fourteen Concentration Courses

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### Three additional chemistry courses such as:

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<td>CHEM 1060</td>
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<td>BIO 0280</td>
<td>Bioclimatology</td>
<td>1</td>
</tr>
</tbody>
</table>

### Total Credits

14

This program is recommended for students interested in graduate study and careers in geochemistry and related fields.

### Basic Supporting Science Courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 0330</td>
<td>Equilibrium, Rate, and Structure</td>
<td>1</td>
</tr>
</tbody>
</table>

| Four courses to build quantitative skills:
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>APMA 0330</td>
<td>Methods of Applied Mathematics I (or higher)</td>
</tr>
<tr>
<td>BIOL 0495</td>
<td>Statistical Analysis of Biological Data</td>
</tr>
<tr>
<td>CSCI 0170</td>
<td>Computer Science: An Integrated Introduction (or higher)</td>
</tr>
<tr>
<td>ENGN 0040</td>
<td>Dynamics and Vibrations (or higher)</td>
</tr>
<tr>
<td>MATH 0090</td>
<td>Single Variable Calculus, Part I (or higher)</td>
</tr>
<tr>
<td>PHYS 0050</td>
<td>Foundations of Mechanics (or higher)</td>
</tr>
</tbody>
</table>

### Fourteen Concentration Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EEPS 0220</td>
<td>Understanding Earth and Environmental Processes</td>
<td>1</td>
</tr>
<tr>
<td>EEPS 0230</td>
<td>Geochemistry: Earth and Planetary Materials and Processes</td>
<td>1</td>
</tr>
<tr>
<td>EEPS 0240</td>
<td>Earth: Evolution of a Habitable Planet</td>
<td>1</td>
</tr>
</tbody>
</table>

### Three additional chemistry courses such as:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 0350</td>
<td>Organic Chemistry I</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 0360</td>
<td>Organic Chemistry II</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 0500</td>
<td>Inorganic Chemistry</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 1060</td>
<td>Advanced Inorganic Chemistry</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 1140</td>
<td>Physical Chemistry: Quantum Chemistry</td>
<td>1</td>
</tr>
</tbody>
</table>

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Geology-Physics/Mathematics

Geophysics involves the application of physics and mathematics to the study of processes that operate on and within the Earth and other planets, over short and long timescales. The AB degree requires a total of 14 courses, including 6 geoscience courses, 3 physics or engineering courses, and 3 math and applied math courses. The ScB degree requires a total of 20 courses, including 8 geoscience courses, 4 physics or engineering courses, and 3 math and applied courses; students can choose courses from both solid Earth geophysics and climate science themes. Geoscience courses emphasize an analytical and process-oriented approach, with hands-on experiences in labs and on field trips. Active and collaborative learning is encouraged, as is practice in written and oral communication. There are many opportunities for students to engage in research (typically in paid positions) during the academic year or in the summer, in areas such as analysis of seismic waves in subduction zones, theoretical modeling of convection in the Earth’s mantle, modeling the effects of the warming climate in the oceans and atmosphere, and remote sensing of how climate change affects vegetation.

Standard program for the A.B. degree

Recommended for students seeking a liberal education and interested in applying physical and mathematical principles toward an understanding of the processes affecting planets, Earth, and the environment and how they are modeled. Some course requirements may be flexible based on consultation with concentration advisor.

Five supporting science courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 0330</td>
<td>Equilibrium, Rate, and Structure</td>
</tr>
<tr>
<td>PHYS 0050</td>
<td>Foundations of Mechanics</td>
</tr>
<tr>
<td>PHYS 0070</td>
<td>Analytical Mechanics</td>
</tr>
<tr>
<td>ENGN 0440</td>
<td>Dynamics and Vibrations</td>
</tr>
</tbody>
</table>

A course involving mechanics such as:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 0050</td>
<td>Foundations of Mechanics</td>
</tr>
<tr>
<td>PHYS 0070</td>
<td>Analytical Mechanics</td>
</tr>
</tbody>
</table>

Three courses in APMA or MATH, one of which must be APMA 0330, APMA 050, or equivalent

Nine concentration courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EEPS 0220</td>
<td>Understanding Earth and Environmental Processes</td>
</tr>
<tr>
<td>EEPS 0230</td>
<td>Geochemistry: Earth and Planetary Materials and Processes</td>
</tr>
<tr>
<td>EEPS 0250</td>
<td>Computational Approaches to Modelling and Quantitative Analysis in Natural Sciences: An Introduction</td>
</tr>
<tr>
<td>EEPS 1430</td>
<td>Principles of Planetary Climate</td>
</tr>
<tr>
<td>EEPS 1450</td>
<td>Structural Geology</td>
</tr>
<tr>
<td>EEPS 1510</td>
<td>Introduction to Atmospheric Dynamics</td>
</tr>
<tr>
<td>EEPS 1520</td>
<td>Ocean Circulation and Climate</td>
</tr>
<tr>
<td>EEPS 1610</td>
<td>Solid Earth Geophysics</td>
</tr>
<tr>
<td>EEPS 1620</td>
<td>Continuum Physics of the Solid Earth</td>
</tr>
</tbody>
</table>

One additional EEPS course such as:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EEPS 1130</td>
<td>Ocean Biogeochemical Cycles</td>
</tr>
<tr>
<td>EEPS 1330</td>
<td>Global Environmental Remote Sensing</td>
</tr>
<tr>
<td>EEPS 1560</td>
<td>Global Tectonics</td>
</tr>
<tr>
<td>EEPS 1650</td>
<td>Earthquake Seismology</td>
</tr>
<tr>
<td>EEPS 1810</td>
<td>Physics of Planetary Evolution</td>
</tr>
<tr>
<td>EEPS 1820</td>
<td>Geophysical Fluid Dynamics: Rotating, Stratified Turbulence Edition</td>
</tr>
<tr>
<td>EEPS 1970</td>
<td>Individual Study of Geologic Problems</td>
</tr>
</tbody>
</table>

Two courses in physics or engineering such as:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 0060</td>
<td>Foundations of Electromagnetism and Modern Physics</td>
</tr>
<tr>
<td>PHYS 0470</td>
<td>Electricity and Magnetism</td>
</tr>
<tr>
<td>PHYS 0550</td>
<td>Advanced Classical Mechanics</td>
</tr>
<tr>
<td>PHYS 1600</td>
<td>Computational Physics</td>
</tr>
<tr>
<td>ENGN 0310</td>
<td>Mechanics of Solids and Structures</td>
</tr>
<tr>
<td>ENGN 0490</td>
<td>Fundamentals of Environmental Engineering</td>
</tr>
<tr>
<td>ENGN 0510</td>
<td>Electricity and Magnetism</td>
</tr>
<tr>
<td>ENGN 0810</td>
<td>Fluid Mechanics</td>
</tr>
<tr>
<td>ENGN 1370</td>
<td>Advanced Engineering Mechanics</td>
</tr>
</tbody>
</table>

Total Credits: 19

1 Advanced placement may be substituted for the first semester of physics.

Standard program for the Sc.B. degree

This program is recommended for students interested in graduate study and careers in geophysics, climate science and related fields. Students will be prepared to understand and use models, make measurements, and use theories of the processes studied in these fields. Some course requirements may be flexible based on consultation with concentration advisor.

Five supporting science courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 0330</td>
<td>Equilibrium, Rate, and Structure</td>
</tr>
</tbody>
</table>
| A course involving mechanics such as:
| PHYS 0050   | Foundations of Mechanics                         |
| PHYS 0070   | Analytical Mechanics                             |
| ENGN 0440   | Dynamics and Vibrations                          |

Three courses in APMA or MATH, one of which must be APMA 0330, APMA 050, or equivalent

Fourteen Concentration Courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
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<tbody>
<tr>
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<td>Continuum Physics of the Solid Earth</td>
</tr>
</tbody>
</table>

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Concentration Requirements

- Nine courses beyond GRMN 0400 or GRMN 0450;
- At least six of the nine courses must be at the 1000-level (or higher);
- Two of the 1000-level courses must involve writing assignments in German, and students must obtain at least a grade of B in these courses;
- At least five of the nine courses must be taken in the Department of German Studies (or four if a student spends a whole year in Germany on Study Abroad);
- Completion of a Senior Seminar (i.e. a course from the German Studies 1900 series) as part of the five courses within the Department of German Studies; and
- If a student studies abroad for one semester, as many as four courses, in the case of two semesters, as many as five courses, from study abroad may count toward the concentration.

GRMN 0500F Twentieth-Century German Culture
GRMN 0600C From Faust to Freud: Germany’s Long 19th Century
GRMN 0750B Tales of Vampirism and the Uncanny
GRMN 0750D The Poetics of Murder: Crime Fiction from Poe to the Present
GRMN 0750F Historical Crime Fiction
GRMN 1200C Nietzsche - The Good European
GRMN 1200D Repetition: Kierkegaard, Nietzsche and Freud
GRMN 1320A German Aesthetics from Lessing to Heidegger
GRMN 1320D Goethe
GRMN 1320E Classical German Literature: Goethe und die Klassik
GRMN 1320F Eighteenth-Century German Aesthetics
GRMN 1320G Drama and Religion
GRMN 1320I What is an Image? German Aesthetics and Art from Lessing to Heidegger
GRMN 1320O Freudian Inspirations: Psychoanalysis and the Arts
GRMN 1320S Reading Friedrich Hölderlin; An Introduction
GRMN 1330A The Individual in the Age of Industry
GRMN 1340A Crime and Punishment- Introduction to German Mystery Texts and Films
GRMN 1340B Gilt Management: Postwar German Culture
GRMN 1340C Jahrhundertwende 1900
GRMN 1340D Modern German Prose, 1978-1998
GRMN 1340I Turn of the Century
GRMN 1340J The Works of Franz Kafka
GRMN 1340K Unmittelbar nach 1945: Literatur und Film in Deutschland
GRMN 1340L The Modern Period
GRMN 1340M Kafka’s Writing
GRMN 1340Q Vergangenheitsbewältigung: German Literature of Memory
GRMN 1440A Dada-Performance and Digital-Interactivity
GRMN 1440C Poetry and the Sublime
GRMN 1440D Modernity and Its Discontents: The German Novella
GRMN 1440E Märchen

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRMN 1440F</td>
<td>Lyric Poetry From the Middle Ages to the Present</td>
</tr>
<tr>
<td>GRMN 1440H</td>
<td>Projections of America</td>
</tr>
<tr>
<td>GRMN 1440L</td>
<td>German Lyric Poetry: From Goethe to Heine</td>
</tr>
<tr>
<td>GRMN 1440N</td>
<td>Kunstmaerchen: the Literary Fairytales in the Nineteenth Century</td>
</tr>
<tr>
<td>GRMN 1440O</td>
<td>Modern German Drama</td>
</tr>
<tr>
<td>GRMN 1440P</td>
<td>Heroes, Failures and Other Peculiar Characters-The German Novel from Goethe to Kafka</td>
</tr>
<tr>
<td>GRMN 1440S</td>
<td>Grimm's Fairy Tales</td>
</tr>
<tr>
<td>GRMN 1440W</td>
<td>The European Novel from Goethe to Proust (COLT 1420)</td>
</tr>
<tr>
<td>GRMN 1440X</td>
<td>&quot;Stranger Things: The German Novella&quot;</td>
</tr>
<tr>
<td>GRMN 1440Y</td>
<td>Return to Sender: Love, Letters, and Literature</td>
</tr>
<tr>
<td>GRMN 1441A</td>
<td>Theater and Revolution (COLT 1411B)</td>
</tr>
<tr>
<td>GRMN 1441C</td>
<td>Introduction to German Romantic Poetry</td>
</tr>
<tr>
<td>GRMN 1450A</td>
<td>German-Jewish Literature</td>
</tr>
<tr>
<td>GRMN 1450B</td>
<td>Die Berliner Republik und die Vergangenheit</td>
</tr>
<tr>
<td>GRMN 1450C</td>
<td>National Socialism and the Shoah in Recent German Prose</td>
</tr>
<tr>
<td>GRMN 1450F</td>
<td>20 Years After: The End of GDR and German Reunification</td>
</tr>
<tr>
<td>GRMN 1450G</td>
<td>Love and Death</td>
</tr>
<tr>
<td>GRMN 1450H</td>
<td>Images of America in German Literature</td>
</tr>
<tr>
<td>GRMN 1640C</td>
<td>German National Cinema from 1917 to 1989, and Cold War Germanys in Film</td>
</tr>
<tr>
<td>GRMN 1660B</td>
<td>Berlin: A City Strives to Reinvint Itself</td>
</tr>
<tr>
<td>GRMN 1660C</td>
<td>German Culture in the Nazi Era</td>
</tr>
<tr>
<td>GRMN 1660F</td>
<td>After Hitler: German Culture and Politics, 1945 to Present</td>
</tr>
<tr>
<td>GRMN 1660G</td>
<td>Kafka</td>
</tr>
<tr>
<td>GRMN 1660H</td>
<td>Literary Discourse of Minority Cultures in Germany</td>
</tr>
<tr>
<td>GRMN 1660I</td>
<td>Literature and Other Media</td>
</tr>
<tr>
<td>GRMN 1660K</td>
<td>Thinking After Philosophy</td>
</tr>
<tr>
<td>GRMN 1660L</td>
<td>German Jews and Capitalist Markets in the Long Nineteenth Century</td>
</tr>
<tr>
<td>GRMN 1660P</td>
<td>Having Beethoven Over in 1970</td>
</tr>
<tr>
<td>GRMN 1660Q</td>
<td>Film and the Third Reich</td>
</tr>
<tr>
<td>GRMN 1660R</td>
<td>Freud</td>
</tr>
<tr>
<td>GRMN 1660S</td>
<td>Mord und Medien. Krimis im intermedialen Vergleich</td>
</tr>
<tr>
<td>GRMN 1660T</td>
<td>Germans/Jews, Deutsche (und) Juden</td>
</tr>
<tr>
<td>GRMN 1660U</td>
<td>What was Socialism? From Marx to &quot;Goodbye Lenin&quot;</td>
</tr>
<tr>
<td>GRMN 1660V</td>
<td>Nietzsche</td>
</tr>
<tr>
<td>GRMN 1660W</td>
<td>Early German Film and Film Theory</td>
</tr>
<tr>
<td>GRMN 1661A</td>
<td>Race and Classical German Thought</td>
</tr>
<tr>
<td>GRMN 1661E</td>
<td>Germany, Alcohol, and the Global Nineteenth Century</td>
</tr>
<tr>
<td>GRMN 1661F</td>
<td>Music, Religion, Politics (MUSC 1675)</td>
</tr>
<tr>
<td>GRMN 1661G</td>
<td>The Case of Wagner (MUSC 1640G)</td>
</tr>
<tr>
<td>GRMN 1661L</td>
<td>The Promise of Being: Heidegger for Beginners (COLT 1610V)</td>
</tr>
<tr>
<td>GRMN 1700A</td>
<td>Introduction to Yiddish Culture and Language (JUDS 1713)</td>
</tr>
<tr>
<td>GRMN 1770A</td>
<td>Introduction to Yiddish Culture and Language (JUDS 1713)</td>
</tr>
<tr>
<td>GRMN 1770</td>
<td>Introduction to Yiddish Culture and Language (JUDS 1713)</td>
</tr>
<tr>
<td>GRMN 1770A</td>
<td>Introduction to Yiddish Culture and Language (JUDS 1713)</td>
</tr>
<tr>
<td>GRMN 1800</td>
<td>Posthumanism and the Ends of Man (COLT 1814Y)</td>
</tr>
<tr>
<td>GRMN 1800A</td>
<td>Berlin: Dissonance, Division, Revision (COLT 1813J)</td>
</tr>
<tr>
<td>GRMN 1900A</td>
<td>The Weimar Republic (1918-1933)</td>
</tr>
<tr>
<td>GRMN 1900B</td>
<td>Sites of Memory</td>
</tr>
<tr>
<td>GRMN 1900C</td>
<td>Cultural Industry and the Aesthetics of the Spectacle</td>
</tr>
<tr>
<td>GRMN 1900D</td>
<td>Fleeing the Nazis: German Culture in Exile, 1933-1945</td>
</tr>
<tr>
<td>GRMN 1900E</td>
<td>Made in Germany - A Cultural History of Science, Technology, and Engineering</td>
</tr>
<tr>
<td>GRMN 2320B</td>
<td>The Works of Heinrich Kleist</td>
</tr>
<tr>
<td>GRMN 2320C</td>
<td>Enlightened Laughter</td>
</tr>
<tr>
<td>GRMN 2320D</td>
<td>Kafka in English</td>
</tr>
<tr>
<td>GRMN 2320E</td>
<td>Political Romanticism</td>
</tr>
<tr>
<td>GRMN 2330A</td>
<td>Vision and Narration in the 19th Century</td>
</tr>
<tr>
<td>GRMN 2340A</td>
<td>German Literature 1968-1989</td>
</tr>
<tr>
<td>GRMN 2340B</td>
<td>Poetik der AutorInnen</td>
</tr>
<tr>
<td>GRMN 2340C</td>
<td>German Modernism</td>
</tr>
<tr>
<td>GRMN 2460A</td>
<td>German Literature 1945-1967</td>
</tr>
<tr>
<td>GRMN 2460C</td>
<td>Literature of the German Democratic Republic</td>
</tr>
<tr>
<td>GRMN 2460D</td>
<td>Thomas Mann: Die Romane</td>
</tr>
<tr>
<td>GRMN 2500A</td>
<td>Rethinking the Bildungsroman (COLT 2520G)</td>
</tr>
<tr>
<td>GRMN 2660A</td>
<td>On the Sublime</td>
</tr>
<tr>
<td>GRMN 2660C</td>
<td>Socialism and the Intellectuals</td>
</tr>
<tr>
<td>GRMN 2660G</td>
<td>Reading (in) German Literature</td>
</tr>
<tr>
<td>GRMN 2660H</td>
<td>Historicism, Photography, Film</td>
</tr>
<tr>
<td>GRMN 2660I</td>
<td>Torture in European Literature and Aesthetic Theory</td>
</tr>
<tr>
<td>GRMN 2660O</td>
<td>From Hegel to Nietzsche: Literature as/ and Philosophy</td>
</tr>
<tr>
<td>GRMN 2660P</td>
<td>The Essay: Theory and Praxis</td>
</tr>
<tr>
<td>GRMN 2660Q</td>
<td>Freud and Lacan (ENGL 2900T)</td>
</tr>
<tr>
<td>GRMN 2661A</td>
<td>“Other Worlds”</td>
</tr>
<tr>
<td>GRMN 2661F</td>
<td>Textual Border Crossings: Translational Literature</td>
</tr>
<tr>
<td>GRMN 2661J</td>
<td>Art, Philosophy, and Truth: A Close Reading of Benjamin's Essay on Goethe's Elective Affinities</td>
</tr>
<tr>
<td>GRMN 2661K</td>
<td>Goethe's Faust</td>
</tr>
<tr>
<td>GRMN 2662A</td>
<td>Theories of Poetry and the Poetic</td>
</tr>
</tbody>
</table>

**Honors**

Candidates for honors will be expected to have a superior record in departmental courses and will have to be approved by the Department of German Studies. Honors candidates must take one additional course at the 1000-level from the German studies offerings and present an acceptable Senior Honors Thesis. The additional course may be used for preparation of the honors thesis. Students are encouraged to discuss their thesis topics with the concentration advisor no later than the third week of classes in Fall of their Senior year.

**Health & Human Biology**

Health and Human Biology is an interdisciplinary concentration that provides a rigorous foundation in the biological sciences with substantive course work in humanities and social sciences within a subfield of Human Health and Disease. The program includes: background courses, biology core courses, a set of theme courses, and a Senior Capstone activity.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Background courses provide the essential foundations in chemistry, mathematics, methods, and basic biology. These support the Biology core, which is comprised of a flexible menu of intermediate and advanced courses. A required portion of the Biology core is Genetics, a cornerstone of human biology and its interface with other fields. The Biology core underscores the related coursework within the Health and Disease Theme. The Theme courses are social science and humanities courses that form a cohesive, thoughtful grouping. Theme groupings must be approved by the advisor. A required senior capstone course or activity builds on the program’s focus.

Program Requirements

REQUIRED BACKGROUND:

Four (4) courses including:

MATH 0090  Single Variable Calculus, Part I (or equivalent placement)  1

OR

MATH 0050 & MATH 0060  Analytic Geometry and Calculus and Analytic Geometry and Calculus

OR

MATH 0100 or MATH 0170  Single Variable Calculus, Part II (Accelerated)

CHEM 0330  Equilibrium, Rate, and Structure  1

BIOL 0200  The Foundation of Living Systems  1

Statistics course chosen with advisor’s help.  1

CORE PROGRAM:

In addition to the stated background in Chemistry, Math, Biology and Statistics, five (5) Biology plus four (4) coherently-grouped Theme courses, plus a Senior-Year Capstone course or project. (See description of Capstone at link below this table).

BIOL:

Five (5) courses, including:  5

-OR-

BIOL 0470  Genetics

-OR-

BIOL 0480 & BIOL 0500  Evolutionary Biology and Cell and Molecular Biology

-OR-

BIOL 0480 & BIOL 0510  Evolutionary Biology and Introductory Microbiology

-OR-

BIOL 0480 & BIOL 0280  Evolutionary Biology and Biochemistry

Select one course in structure/function/development such as:

- BIOL 0400  Biological Design: Structural Architecture of Organisms
- BIOL 0800  Principles of Physiology
- BIOL 1310  Developmental Biology
- BIOL 1800  Animal Locomotion
- BIOL 1880  Comparative Biology of the Vertebrates
- NEUR 0010  The Brain: An Introduction to Neuroscience

One course in organismal/population biology such as:

- BIOL 0380  The Ecology and Evolution of Infectious Disease
- BIOL 0410  Invertebrate Zoology
- BIOL 0420  Principles of Ecology
- BIOL 0480  Evolutionary Biology
- BIOL 1470  Conservation Biology
- BIOL 1555  Methods in Informatics and Data Science for Health
- BIOL 1880  Comparative Biology of the Vertebrates

ENVS 0490  Environmental Science in a Changing World

Or a course from the NEUR 1940 series

Two Biology or Neuroscience courses. At least one must be at the advanced level.

THEME: With the advisor’s assistance, a theme is chosen and a cohesive set of courses are selected from outside of Biology and Neuroscience.

No more than TWO courses from a given department may be included in the theme portion

Students will then select from FOUR theme options: 1) Mind, Brain, Behavior, 2) Planetary Health, 3) Global Health, 4) Social Determinants of Health

SENIOR CAPSTONE ACTIVITY: Must be conducted during the senior year, fulfilled by one of the following, and related to the students learning goals in the concentration:

1) Advisor approved senior seminar or advanced course related to the theme

2) One semester of independent research/independent study (BIOL 1950 or BIOL 1960); in the case of a senior honors thesis, both BIOL 1950 and BIOL 1960 can be used as the capstone.

3) An appropriate internship with a scholarly context can be used if coupled with a semester of independent study mentored by a Brown faculty member.

Total Credits 14


Hispanic Literatures and Cultures

Spanish is the second most widely spoken language in the world and the second language of the United States. In our society, knowing Spanish is not just an asset; it is increasingly a necessity. The Spanish language program offers a sequence of courses ranging from basic to advanced. Students at all levels develop proficiency in speaking, listening, reading, and writing while also studying the cultures and societies of the contemporary Spanish-speaking world. The Hispanic Literatures and Cultures concentration enables students to develop advanced Spanish skills while acquiring a solid background in the complex history, literature, cultures, and intellectual traditions of Spain, Latin America, and the Latinx-U.S.. The department offers a variety of courses on topics related to literary history and theory; multicultural contact; linguistics and the history of the language; visual culture, film, and performance studies. Interdisciplinarity is a hallmark of the department, and students in this concentration are encouraged to broaden their perspectives by taking relevant courses in other departments. Most choose to strengthen their academic preparation by participating in a study abroad program in Spain or Latin America and by engaging with Latin American and Latinx communities in the United States.

Concentration Requirements and Overview of the Curriculum

The concentration requires a minimum of ten courses: one required course (HISP 0650 Advanced Spanish through Literature and Film (unless waived)); up to six courses at the 700 level; and at least three courses at the 1000 level. HISP 0650 gives students fundamental tools for critical analysis while also specifically targeting the development of advanced grammar and writing skills. The 700 level encompasses panoramic courses in the literary and cultural histories of Spain, Latin America, and

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
the Latinx USA, as well as introductory courses on professional and literary translation and Spanish linguistics, all of which place emphasis on continued refinement of written and oral expression in Spanish. Courses at the 1000 level focus on particular authors, genres, periods, or special topics and introduce students to major critical voices and scholarly perspectives on the materials studied. Concentrators must take at least one Hispanic Studies course with the WRIT designation.

1 Students can waive this course with an AP of 5 in Spanish Literature; or an SAT II of 750 or above; or a Brown Placement Score in Spanish of 651 or above. For more information on placements go to: https://www.brown.edu/academics/hispanic-studies/language-placement

Students may apply up to four related courses from outside the department toward the concentration, with prior approval from the Director of Undergraduate Studies (DUS). These courses may come from study abroad, transfer credit, and other departments and programs at Brown (e.g., Latin American and Caribbean Studies, Comparative Literature, History, Ethnic Studies, Anthropology), as long as they deal with themes related to the literatures, histories, languages*, and/or cultures of Spain, Latin America, or the Latinx USA.

Capstone colloquium: Giving students an opportunity to reflect upon and celebrate their achievements in the Hispanic Literatures and Cultures concentration, there is an annual colloquium with graduating seniors, faculty and friends. Each graduating senior shares a piece of work or a text, whether studied in class or produced as an assignment, that stands out as particularly significant to their time in Hispanic Studies. This can take several forms: it can be an extract from a poem, novel, play, or critical essay; it can also be a film or music clip or piece of art; or, a translation done by the student, or an original creative text.

The Hispanic Studies Literatures and Cultures concentration is designed to encourage and support language-specific study, for we believe that the linguistic cultural products of the Spanish-speaking world are most deeply appreciated in the original language. Hispanic Studies courses are therefore generally taught in Spanish, unless otherwise specified in the course description. Up to two courses taken in English or another language, whether in the department or outside, can count toward the concentration.

2 Up to two courses in languages other than Spanish that are spoken in or are closely related to Spain and/or Latin America can count towards the concentration. As with all courses taken outside the department, students must petition the DUS in advance to have these courses counted, demonstrating their direct link to the student’s interests, for instance, for Honors Thesis research.

Required Course:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>HISP 0650</td>
<td>Advanced Spanish Through Literature &amp; Film</td>
</tr>
</tbody>
</table>

Up to six courses at the 700-level, such as:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>HISP 0710B</td>
<td>Hispanic Culture Through Cinema</td>
</tr>
<tr>
<td>HISP 0710C</td>
<td>Introducción a la lingüística hispánica</td>
</tr>
<tr>
<td>HISP 0710E</td>
<td>Introduction to Professional Translation and Interpretation</td>
</tr>
<tr>
<td>HISP 0730</td>
<td>Encounters: Latin America in Its Literature and Culture</td>
</tr>
<tr>
<td>HISP 0740</td>
<td>Intensive Survey of Spanish Literature</td>
</tr>
<tr>
<td>HISP 0750B</td>
<td>The Latin American Diaspora in the US</td>
</tr>
<tr>
<td>HISP 0750E</td>
<td>Topics in Hispanic Culture and Civilization</td>
</tr>
<tr>
<td>HISP 0750G</td>
<td>Wildefied Stories</td>
</tr>
<tr>
<td>HISP 0750O</td>
<td>Cultural Studies in Spanish America</td>
</tr>
<tr>
<td>HISP 0750P</td>
<td>Screening Social Justice in the Spanish-Speaking World</td>
</tr>
<tr>
<td>HISP 0750Q</td>
<td>Health, Illness and Medicine in Spanish and Spanish American Literature and Film</td>
</tr>
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</table>

At least three 1000-level courses, such as:

<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>HISP 1240A</td>
<td>Fashion and Fiction in the Early Modern Hispanic World</td>
</tr>
<tr>
<td>HISP 1240L</td>
<td>Don Quijote de la Mancha</td>
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</tbody>
</table>

Honors Thesis or Project

Students with an excellent record in their Hispanic Studies courses will be eligible to write an Honors Thesis or write and produce an Honors Project. Students pursuing honors must have a record of all A’s or a final grade of S with distinction in courses they have as S/NC. Typically, the Honors Thesis is a major research paper of approximately 40 to 80 pages in Spanish, depending on the topic and treatment necessary. Alternatively, a student may, with prior permission of the Director of Undergraduate Studies, present a film, gallery exhibition, or other appropriate project, together with a paper that clearly demonstrates the academic foundations and relevance of the project. For additional details regarding the Honors Thesis in Hispanic Studies, please refer to our website (https://www.brown.edu/academics/hispanic-studies/honors-program/).

History

History is the study of how societies and cultures across the world change over time. History concentrators learn to write and think critically, and to understand issues from a variety of perspectives. The department offers a wide variety of courses concerned with changes in human experience through time, ranging from classical Greek and Roman civilizations to the histories of Africa, the Middle East, the Americas, and Asia. While some courses explore special topics, others concentrate on the history of a particular country (e.g., China or Brazil) or period of time (e.g. Antiquity or the 20th century). By taking advantage of our diverse course offerings,
students can engage in and develop broad perspectives on the past and the present.

Prospective concentrators should visit the History site (https://www.brown.edu/academics/history/undergraduate/history-concentration/) and visit the office hours of their prospective concentration advisor (https://www.brown.edu/academics/history/undergraduate/history-concentration/concentration-advisors/) (assigned according to student surname).

Concentration Requirements

Basic requirement: A minimum of 10 courses, at least 8 of which must be courses taught by a Brown University History Department faculty member (https://www.brown.edu/academics/history/faculty/) (including their cross-listed courses) and/or courses offered by the Brown History Department (such as those taught by Visiting or Adjunct Professors). Transfer students or study-abroad students who have spent a year or more at another institution must have at least 7 of 10 history courses taught by Brown History faculty or otherwise offered through the Brown History Department.

Summary

Two (2) Courses in the "Premodern" era (P)
One (1) Course in Africa OR Middle East - South Asia
One (1) Course in East Asia OR Latin America
One (1) course in Europe OR North America
One (1) course designated Global

Field of Focus (FF) - Students must take four courses in the field of focus. These courses may be used to satisfy different requirements (geography and field of focus, etc.).

Capstone Seminar: All concentrators must complete at least one capstone seminar (HIST 1960s and HIST 1970s series and select HIST 1980s courses), ideally, in the field of focus. Honors (optional) 3 additional courses related to writing a thesis (one of which, HIST 1992, can count towards your 10 concentration requirements)

Note: Courses can fulfill more than one of these requirements at a time. For instance, HIST1963Q "Sex, Power, God: A Medieval Perspective" would count as "Premodern," a "Europe" class, and a capstone seminar. It could also count towards a field of focus in premodern Europe or the history of sexuality or the history of religion, etc.

Courses below 1000: Students may count no more than four courses numbered below 1000 toward the concentration requirements. Students considering a concentration in History are encouraged to take First Year and Sophomore seminars, as well as courses in the HIST 0150 and 0200 series, for an introduction to historical reasoning, discussion, and writing.

Field of focus: In History, concentrators choose or create their own "track," rather than having to select an existing track. The field of focus must include a minimum of four courses, and it may be: geographical (such as Latin America); geographical and chronological (such as Modern North America); or transnational (such as ancient world); or thematic (such as urban history). All students should consult a concentration advisor early in the process about their potential field of focus. All fields are subject to approval by the concentration advisor.

Thematic fields of focus include but are not restricted to:

- Comparative Colonialism
- Gender and Sexuality
- Law and Society
- Race and Ethnicity
- Science, Technology, Environment and Medicine (STEAM)
- Urban History

Examples of transnational foci include:

- The Ancient World
- The Early Modern Atlantic World
- Africa and the Diaspora

- The Mediterranean World from Antiquity to the Middle Ages
- The Pacific World

Geographic Distribution: Concentrators must take at least four courses defined by geography as follows:

- One course in Africa or Middle East-South Asia
- One course in East Asia or Latin America
- One course in Europe or North America
- One course in Global

Maximum of five courses in a single geography “Global” courses are defined as those that deal with at least three different regions of the world.

For details on which courses count toward which geographical distribution requirement click here (https://docs.google.com/spreadsheets/d/1NT5T7zAqXDCivZXCtdsdcenMD5v28ke6550nBmE/edit?#gid=2138711521).

Chronological Distribution: All concentrators must complete at least two courses designated as “P” (for pre-modern).

For a listing of which courses count as “P” courses click here (https://docs.google.com/spreadsheets/d/1NT5T7zAqXDCivZXCtdsdcenMD5v28ke6550nBmE/edit?#gid=2138711521)

Capstone Seminar: All concentrators must complete at least one capstone seminar (HIST 1960s and HIST 1970s series and select HIST 1980s courses). They provide students with an opportunity to delve deeply into a historical problem and to write a major research and/or analytical paper which serves as a capstone experience. Students considering writing a senior honors thesis are advised to take an advanced seminar in their junior year. First-Year students are not advised to take these courses.

Transferring Courses: The History Department encourages students to take history courses at other institutions, either in the United States or abroad, as well as history-oriented courses in other departments and programs at Brown. Students may apply two courses taken in other departments/programs at Brown to the ten-course minimum for the History concentration. Students who spend one semester at another institution may apply to their concentration a maximum of two courses from other departments or institutions, and those who spend more than one semester at another institution may apply to their concentration a third course transferred from another institution.

Students wishing to apply such courses must present to their concentration advisor justification that these courses complement some aspect of their concentration. Courses from other Brown departments may not be applied toward the chronological distribution requirement. History courses taught by trained historians from other institutions (e.g., from study abroad or a previous institution) may be applied toward the chronological distribution requirement so long as at least 2/3 of the course content examine the "premodern" or "early modern" periods.

It is normally expected that students will have declared their intention to concentrate in History and have their concentration programs approved before undertaking study elsewhere. Students taking courses in Brown-run programs abroad automatically receive University transfer credit, but concentration credit is granted only with the approval of a concentration advisor. Students taking courses in other foreign-study programs or at other universities in the United States must apply to the Transfer Credit Advisor and then get approval from a concentration advisor.

Regular Consultation: Students are strongly urged to consult regularly with their concentration advisor or a department advisor about their program. During the seventh semester, all students must meet with their concentration advisor for review and approval of their program.

COURSES BELOW 1000

LECTURE COURSES

150's: Thematic Courses that Cut Across Time and Place

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
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<tbody>
<tr>
<td>HIST 0150A</td>
<td>History of Capitalism</td>
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<tr>
<td>HIST 0150B</td>
<td>The Philosophers’ Stone: Alchemy From Antiquity to Harry Potter</td>
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For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>HIST 0150C</td>
<td>Locked Up: A Global History of Prison and Captivity</td>
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<tr>
<td>HIST 0150D</td>
<td>Refugees: A Twentieth-Century History</td>
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<td>HIST 0150F</td>
<td>Pirates</td>
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<td>HIST 0150G</td>
<td>History of Law: Great Trials</td>
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<td>HIST 0150H</td>
<td>Foods and Drugs in History</td>
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<tr>
<td>HIST 0150I</td>
<td>The Making of the Modern World</td>
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<td>HIST 0150J</td>
<td>The Ocean in Global History</td>
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<td><strong>Gateway Lecture Courses</strong></td>
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<tr>
<td>HIST 0202</td>
<td>African Experiences of Empire</td>
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<td>HIST 0203</td>
<td>Modern Africa: From Empire to Nation-State</td>
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<td>HIST 0212</td>
<td>Histories of East Asia: China</td>
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<tr>
<td>HIST 0214</td>
<td>Histories of East Asia: Japan</td>
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<tr>
<td>HIST 0215</td>
<td>Modern Korea: Contending with Modernity</td>
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<td>HIST 0218</td>
<td>The Making of Modern East Asia</td>
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<td>HIST 0228A</td>
<td>War, Tyranny, and Peace in Modern Europe</td>
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<td>HIST 0232</td>
<td>Clash of Empires in Latin America</td>
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<td>HIST 0233</td>
<td>Colonial Latin America</td>
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<td>HIST 0234</td>
<td>Modern Latin America</td>
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<td>HIST 0243</td>
<td>Modern Middle East Roots: 1492 to the Present</td>
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<td>HIST 0244</td>
<td>Understanding the Middle East: 1800s to the Present</td>
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<tr>
<td>HIST 0247</td>
<td>Civilization, Empire, Nation: Competing Histories of the Middle East</td>
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<td>HIST 0248</td>
<td>'Neither of the East nor West': The Ottoman Empire</td>
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<td>HIST 0255A</td>
<td>Mexican American History</td>
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<td>HIST 0256</td>
<td>Introduction to Latinx History</td>
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<td>HIST 0259</td>
<td>Labor, Land and Culture: A History of Immigration in the U.S.</td>
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<td>HIST 0273A</td>
<td>The First Globalization: The Portuguese in Africa, Asia, and the Americas</td>
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<td>HIST 0250</td>
<td>American Exceptionalism: The History of an Idea</td>
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<td>HIST 0252</td>
<td>The American Civil War in Global Perspective: History, Law, and Popular Culture</td>
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<td>HIST 0253</td>
<td>Religion, Politics, and Culture in America, 1865 - Present</td>
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<td>HIST 0257</td>
<td>Modern American History: New and Different Perspectives</td>
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<td>HIST 0270A</td>
<td>From Fire Welders to Empire Builders: Human Impact on the Global Environment before 1492</td>
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<td>From the Columbian Exchange to Climate Change: Modern Global Environmental History</td>
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<td>HIST 0276</td>
<td>A Global History of the Atomic Age</td>
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<td>Science and Capitalism</td>
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<td>Modern Genocide and Other Crimes against Humanity</td>
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<td>History of Medicine I: Medical Traditions in the Old World Before 1700</td>
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<td>History of Medicine II: The Development of Scientific Medicine in Europe and the World</td>
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<td>HIST 0510A</td>
<td>Shanghai in Myth and History</td>
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<td>HIST 0520A</td>
<td>Athens, Jerusalem, and Baghdad: Three Civilizations, One Tradition</td>
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<td>Christianity in Conflict in the Medieval Mediterranean</td>
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<td>HIST 0521M</td>
<td>The Holy Grail and the Historian's Quest for the Truth</td>
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<td>HIST 0522G</td>
<td>An Empire and Republic: The Dutch Golden Age</td>
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<td>HIST 0522N</td>
<td>Reason, Revolution and Reaction in Europe</td>
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<td>HIST 0522O</td>
<td>What is Enlightenment?</td>
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<td>HIST 0523A</td>
<td>The Holocaust in Historical Perspective</td>
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<td>HIST 0523M</td>
<td>History of Fascism</td>
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<td>HIST 0523P</td>
<td>The First World War</td>
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<td>HIST 0535A</td>
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<td>HIST 0535B</td>
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<td>HIST 0537A</td>
<td>Popular Culture in Latin America and the Caribbean</td>
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<td>HIST 0537B</td>
<td>Tropical Delights: Imagining Brazil in History and Culture</td>
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<td>HIST 0550A</td>
<td>Object Histories: The Material Culture of Early America</td>
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<td>HIST 0551A</td>
<td>Abraham Lincoln: Historical and Cultural Perspectives</td>
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<td>A Textile History of Atlantic Slavery</td>
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<td>Robber Barons</td>
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<td>Sport in American History</td>
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<td>HIST 0556B</td>
<td>Inequality and American Capitalism in the Twentieth Century</td>
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<td>HIST 0557A</td>
<td>Slavery and Historical Memory in the United States</td>
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<td>Slavery, Race, and Racism</td>
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<tr>
<td>HIST 0557C</td>
<td>Narratives of Slavery</td>
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<td>HIST 0557D</td>
<td>World of Walden Pond: Transcendentalism in the Age of Reform</td>
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<td>HIST 0559A</td>
<td>Culture and U.S. Empire</td>
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<td>HIST 0559B</td>
<td>Asian Americans and Third World Solidarity</td>
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<td>HIST 0574A</td>
<td>The Silk Road, Past and Present</td>
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<td>HIST 0576A</td>
<td>The Arctic: Global History from the Dog Sled to the Oil Rig</td>
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<td>The US-Mexico Border and Borderlands: A Bilingual English-Spanish Seminar</td>
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<td>HIST 0580M</td>
<td>The Age of Revolutions, 1760-1824</td>
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<td>HIST 0582B</td>
<td>Science and Society in Darwin's England</td>
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<td>Fratricide Friendships: The United States and Latin America in the Twentieth Century</td>
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<td>Welfare States and a History of Modern Life</td>
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<td>HIST 0654B</td>
<td>American Patriotism in Black and White</td>
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<td>HIST 0656A</td>
<td>History of Intercollegiate Athletics</td>
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<td>HIST 0657A</td>
<td>Early American Lives</td>
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<td>HIST 0658D</td>
<td>Walden + Woodstock: The American Lives of Ralph Waldo Emerson and Bob Dylan</td>
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<td>HIST 0675A</td>
<td>The Chinese Diaspora: A History of Globalization</td>
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<tr>
<td>HIST 0685A</td>
<td>The Social Lives of Dead Bodies in China and Beyond</td>
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**COURSES WITH NUMBERS 1000-1999**

**LECTURE COURSES**

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<td>Colonial Africa</td>
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<td>HIST 1070</td>
<td>&quot;Modern&quot; Africa</td>
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<td>HIST 1080</td>
<td>Humanitarianism and Conflict in Africa</td>
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<td>HIST 1101</td>
<td>Chinese Political Thought from Confucius to Xi Jinping</td>
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<td>HIST 1110</td>
<td>Imperial China/China: Culture and Legacy</td>
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<td>Women and Gender Relations in China</td>
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<td>HIST 1120</td>
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<td>HIST 1121</td>
<td>The Modern Chinese Nation: An Idea and Its Limits</td>
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<td>HIST 1141</td>
<td>Japan in the Age of the Samurai</td>
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<td>HIST 1149</td>
<td>Imperial Japan</td>
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<td>Japan's Pacific War: 1937-1945</td>
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<td>HIST 1156</td>
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<td>HIST 1200A</td>
<td>Mediterranean Culture Wars: Archaic Greek History, c 1200 to 479 BC</td>
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<td>HIST 1200B</td>
<td>The Fall of Empires and Rise of Kings: Greek History to 478 to 323 BCE</td>
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<td>HIST 1200C</td>
<td>History of Greece: From Alexander the Great to the Roman Conquest</td>
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<td>HIST 1202</td>
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<td>Modern European Intellectual and Cultural History: Revolution and Romanticism, 1760-1860</td>
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<td>Modern European Intellectual and Cultural History: The Fin de Siecle, 1880-1914</td>
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<td>The Search for Renewal in 20th century Europe</td>
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<td>HIST 1260D</td>
<td>Living Together: Muslims, Christians, and Jews in Medieval Iberia</td>
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<td>HIST 1261E</td>
<td>After Empire: Modern Spain in the 20th Century</td>
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<td>HIST 1262F</td>
<td>Women, Gender, and Feminism in Early Modern Italy</td>
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<td>Truth on Trial: Justice in Italy, 1400-1800</td>
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<td>Cultural History of the Netherlands in a Golden Age and a Global Age</td>
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<td>HIST 1331</td>
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<td>HIST 1332</td>
<td>Reform and Rebellion: Mexico, 1700-1867</td>
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<td>HIST 1333</td>
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<td>HIST 1340</td>
<td>History of the Andes from Incas to Evo Morales</td>
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<td>HIST 1360</td>
<td>Amazonia from the Prehuman to the Present</td>
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<td>HIST 1370</td>
<td>The United States and Brazil: Tangled Relations</td>
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<td>HIST 1381</td>
<td>Latin American History and Film: Memory, Narrative and Nation</td>
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<td>HIST 1440</td>
<td>The Ottomans: Faith, Law, Empire</td>
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<td>HIST 1445</td>
<td>The Making of the Ottoman World, 15th - 20th Centuries</td>
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<td>HIST 1455</td>
<td>The Making of the Modern Middle East</td>
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<td>HIST 1456</td>
<td>Bankrupt: An Economic and Financial History of the Middle East in the 19th and 20th Centuries</td>
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<td>HIST 1457</td>
<td>History of the Palestinians</td>
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<td>HIST 1460</td>
<td>Modern Turkey: Empire, Nation, Republic</td>
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<td>HIST 1503</td>
<td>Antebellum America and the Road to Civil War</td>
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<td>HIST 1505</td>
<td>Making America Modern</td>
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<td>American Politics and Culture Since 1945</td>
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<td>HIST 1511</td>
<td>Sinners, Saints, and Heretics: Religion in Early America</td>
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<td>HIST 1512</td>
<td>First Nations: The People and Cultures of Native North America to 1800</td>
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<td>HIST 1513</td>
<td>U.S. Cultural History from Revolution to Reconstruction</td>
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<td>Capitalism, Slavery and the Economy of Early America</td>
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<td>HIST 1515</td>
<td>American Slavery</td>
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<td>HIST 1530</td>
<td>The Intimate State: The Politics of Gender, Sex, and Family in the U.S., 1873-Present</td>
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For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
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<td>HIST 1550</td>
<td>American Urban History, 1600-1870</td>
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<td>HIST 1553</td>
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<td>HIST 1554</td>
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<td>HIST 1570</td>
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<td>HIST 1571</td>
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<td>HIST 1620</td>
<td>Resisting Empire: Gandhi and the Making of Modern South Asia</td>
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<td>HIST 1640</td>
<td>Inequality + Change: South Asia after 1947</td>
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<td>HIST 1730</td>
<td>&quot;Cannibals&quot;, &quot;Barbarians&quot; and &quot;Noble Savages&quot;: Travel and Ethnography in the Early Modern World</td>
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<td>HIST 1735</td>
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<td>HIST 1736</td>
<td>A Global History of the Reformation</td>
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<td>Religion and Power in North America to 1865</td>
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<td>Environmental History of East Asia</td>
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<td>HIST 1820G</td>
<td>Nature on Display</td>
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<td>HIST 1825F</td>
<td>Nature, Knowledge, Power in Early Modern Europe</td>
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<td>HIST 1825H</td>
<td>Science, Medicine, and Technology in the 17th Century</td>
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<td>HIST 1825J</td>
<td>History of Artificial Intelligence</td>
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<td>HIST 1825L</td>
<td>The Roots of Modern Science</td>
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<td>Science at the Crossroads</td>
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<td>HIST 1825S</td>
<td>Science and Capitalism</td>
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<td>HIST 1830B</td>
<td>Politics and the Psyche from Sigmund Freud to QAnon</td>
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<td>HIST 1830M</td>
<td>From Medieval Bedlam to Prozac Nation: Intimate Histories of Psychiatry and Self</td>
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<tr>
<td>HIST 1835A</td>
<td>Unearthing the Body: History, Archaeology, and Biology at the End of Antiquity</td>
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</table>

**SEMINAR COURSES**

**Non-Capstone Seminars**

- HIST 1947Q: History of Jews in Brazil
- HIST 1952A: World of Walden Pond: Transcendentalism as a Social and Intellectual Movement
- HIST 1956A: Thinking Historically: A History of History Writing
- HIST 1956B: Rites of Power in Modern China
- HIST 1956S: History of Artificial Intelligence
- HIST 1958A: Archives of Desire: Non-Normative Genders and Sexualities in the Hispanophone World

**SEMINAR COURSES**

**Capstone Seminars**

- HIST 1960Q: Medicine and Public Health in Africa
- HIST 1960R: South Africa Since 1990
- HIST 1960S: North African History: 1800 to Present
- HIST 1961B: Cities and Urban Culture in China
- HIST 1961C: Knowledge and Power: China’s Examination Hell
- HIST 1961D: Heaven Above, Suzhou and Hangzhou Below: Urban Culture in Early Modern China
- HIST 1961N: Colonization and Ethnicity in East Asian History
- HIST 1962B: Life During Wartime: Theory and Sources from the Twentieth Century
- HIST 1962C: State, Religion and the Public Good in Modern China
- HIST 1962D: Japan in the World, from the Age of Empires to 3.11
- HIST 1962E: Print and Power in Modern Southeast Asia
- HIST 1963L: Barbarians, Byzantines, and Berbers: Early Medieval North Africa, AD 300-1050
- HIST 1963M: Charlemagne: Conquest, Empire, and the Making of the Middle Ages
- HIST 1963Q: Sex, Power, and God: A Medieval Perspective
- HIST 1964A: Age of Impostors: Fraud, Identification, and the Self in Early Modern Europe
- HIST 1964B: The Enchanted World: Magic, Angels, and Demons in Early Modern Europe
- HIST 1964D: Women in Early Modern England
- HIST 1964E: The English Revolution
- HIST 1964F: Early Modern Ireland
- HIST 1964G: Spin, Terror and Revolution: England, Scotland and Ireland, 1660-1720
- HIST 1964H: Race and Empire in 18th Century France
- HIST 1964K: Descartes’ World
- HIST 1964L: Slavery in the Early Modern World
- HIST 1965B: Fin-de-Siècle Paris and Vienna
- HIST 1965C: Stalinism
- HIST 1965D: The USSR and the Cold War
- HIST 1965E: Politics of the Intellectual in 20C Europe
- HIST 1965H: Europe and the Invention of Race
- HIST 1965I: Industrial Revolution in Europe
- HIST 1965M: Double Fault! Race and Gender in Modern Sports History
- HIST 1965L: Appetite for Greatness: Cuisine, Power, and the French
- HIST 1965R: The Crisis of Liberalism in Modern History
- HIST 1967C: Making Revolutionary Cuba, 1959-Present
- HIST 1967E: In the Shadow of Revolution: Mexico Since 1940
- HIST 1967F: The Maya in the Modern World
- HIST 1967Q: Gender and Sexuality in the Modern History of Latin America
- HIST 1967R: History of Rio de Janeiro
- HIST 1967T: History of the Incas to the Incas to Evo Morales
- HIST 1968A: Approaches to the Middle East
- HIST 1968V: America and the Middle East: Histories of Connection and Exchange
- HIST 1969A: Israel-Palestine: Lands and Peoples I
- HIST 1969B: Israel-Palestine: Lands and Peoples II
- HIST 1969C: Debates in Middle Eastern History
- HIST 1969D: Palestine versus the Palestinians

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HIST 1969F  Nothing Pleases Me: Understanding Modern Middle Eastern History Through Literature
HIST 1970B  Enslaved! Indians and Africans in an Unfree Atlantic World
HIST 1970D  Problem of Class in Early America
HIST 1970F  Early American Money
HIST 1970G  Captive Voices: Atlantic Slavery in the Digital Age
HIST 1971D  From Emancipation to Obama
HIST 1972A  American Legal History, 1760-1920
HIST 1972E  Theory and Practice of Local History
HIST 1972F  Consent: Race, Sex, and the Law
HIST 1972G  Lesbian Memoir
HIST 1972H  U.S. Human Rights in a Global Age
HIST 1972I  Loss, Political Activism and Public Feelings: Between Fact and Affect
HIST 1972J  Racial Capitalism and U.S. Liberal Empire
HIST 1974A  The Silk Roads, Past and Present
HIST 1974B  War and Peace: A Global History
HIST 1974G  Nonviolence in History and Practice
HIST 1974J  Decolonizing Minds: A People's History of the World
HIST 1974K  Maps and Empires
HIST 1974M  Early Modern Globalization
HIST 1974P  Modernity's Crisis: Jewish History from the French Revolution to the Election of Donald Trump
HIST 1974S  The Nuclear Age
HIST 1974Y  Moral Panic and Politics of Fear
HIST 1976A  Native Histories in Latin America and North America
HIST 1976B  The History of Extinction
HIST 1976C  Animal, Vegetable, Mineral: Environmental Histories of Non-Human Actors
HIST 1976D  Powering the Past: The History of Energy
HIST 1976E  The Anthropocene: Climate Change as Social History
HIST 1976G  Animal Histories
HIST 1976H  Environmental History of Latin America 1492-Present
HIST 1976I  Imperialism and Environmental Change
HIST 1976J  Earth Histories: From Creation to Countdown
HIST 1976N  Topics in the History of Economic Thought
HIST 1976R  Histories of the Future
HIST 1977B  Feathery Things: An Avian Introduction to Animal Studies
HIST 1977I  Gender, Race, and Medicine in the Americas
HIST 1977J  War and Medicine since the Renaissance
HIST 1990  Undergraduate Reading Courses
HIST 1992  History Honors Workshop for Prospective Thesis Writers
HIST 1993  History Honors Workshop for Thesis Writers, Part I
HIST 1994  History Honors Workshop for Thesis Writers, Part II

Honors (OPTIONAL):
History concentrators in the 5th or 6th semester may apply for honors. To be admitted, students must have achieved two-thirds “quality grades” in History department courses. A “quality grade” is defined as a grade of “A” or a grade of “S” accompanied by a course performance report indicating a performance at the “A” standard.

Students who wish to enroll in honors are recommended to take HIST 1992, “History Honors Workshop for Prospective Students.” HIST 1992 can count as one of the 10 courses required for graduation in history. HIST 1992 students who prepare a prospectus that receives a grade of A- or above will be admitted to the honors program. Students in their 7th semester who have not taken HIST 1992 (including but not limited to those who are away from Brown during that semester) may apply to the program by submitting a prospectus no later than the first day of that semester. All honors students must complete one semester of HIST 1993 “History Honors Workshop for Thesis Writers, Part I” and one semester of HIST 1994 “History Workshop for Thesis Writers, Part II.” HIST 1993 and HIST 1994 do not count towards the 10 courses required for graduation in history; they are an additional two courses to the minimum of 10 required history courses. Students who contemplate enrolling in the honors program in History should consult the honors section of the department website. They are also encouraged to meet with the Director of the Honors Program (DHP), who serves as the honors advisor.

History of Art and Architecture
The concentration in History of Art and Architecture (HIAA) introduces students to the history of art, architecture, and material culture. Students in HIAA explore a wide range of artistic traditions from around the world, and develop the skills necessary to analyze artworks, artifacts, and the built environment dating from the paleolithic to the contemporary. Concentrators are encouraged to develop familiarity with the distinctive periods, regions, sub-fields, and theoretical approaches that collectively inform the discipline, while at the same time developing an individualized program. Concentrators will receive essential training in perceptual, historical, and critical analysis.

History of Art and Architecture Requirements
To complete the concentration, you will be expected to take a minimum of ten courses. Our goal in setting out these requirements is to welcome students into a lively and diverse department that also shares a cohesive and strong commitment to the field. We as a faculty want students to cultivate their special interests and also to venture into areas that may not be so familiar but that will open new and exciting possibilities for them. Ten courses are only the minimum requirement. Beyond that students are encouraged to take courses at RISD, participate in study abroad programs, and take courses in other Brown departments. As we are a truly interdisciplinary department, you will also find that our faculty collaborates with members of other departments to teach courses that bring together the strengths of different disciplines. We encourage both experimentation and concentration.

Our general survey in history of art and architecture (HIAA 0010) is an excellent foundation for the concentration. It is not a prerequisite for taking other lecture courses but you can count it as one of the five lecture courses required for the concentration.

Since the history of art and architecture addresses issues of practice within specific historical contexts, concentrators are encouraged to take at least one studio art course. Courses in history also train students in methods and approaches that are highly relevant to the history of art and architecture. Study abroad can be a valuable enrichment of the academic work available on campus, in that it offers opportunities for first-hand knowledge of works of art and monuments as well as providing exposure to foreign languages and cultures. Study abroad should be planned in consultation with the concentration advisor in order to make sure that coursework will relate meaningfully to the concentrators program of study.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Summary of Concentration Requirements

5 Lecture Courses, numbered HIAA 0010–HIAA 0999. The courses should engage at least three different geographic regions (Africa, Americas, Asia, Europe) and two different periods (Ancient-Medieval, Early Modern, Modern-Contemporary). Individual courses can be used to fulfill either the geographic or temporal breadth requirement, but not both. Courses tagged as “Multiple Regions” and “Multiple Periods” can be used to fulfill one geographic and one temporal breadth requirement, respectively.

Temporal Periods

Ancient/Medieval:
- HIAA 0022: The Art of Enlightenment
- HIAA 0032: Art and Architecture of the Roman Empire
- HIAA 0322: The Arts of Religion and Ritual in the Ancient World
- HIAA 0062: Dutch and Flemish Art: Visual Culture of the Netherlands in the Seventeenth Century
- HIAA 0550: Painters, Builders, and Bankers in Early Modern Italy

Early Modern:
- HIAA 0560: Constructing the Eternal City: Popes and Pilgrims in Early Modern Rome
- HIAA 0630: Cultural History of the Netherlands in a Golden Age and a Global Age
- HIAA 0660: Giotto to Watteau: Introduction to the Art of Europe from Renaissance to French Revolution

Modern/Contemporary:
- HIAA 0070: Introduction to American Art: The 19th Century
- HIAA 0072: Introduction to American Art: The Twentieth Century
- HIAA 0075: Introduction to the History of Art: Modern Photography
- HIAA 0077: Revolutions, Illusions, Impressions: A History of Nineteenth-Century Art
- HIAA 0084: Postwar to Postmodernism: Art Since 1945

Multiple Periods:
- HIAA 0010: A Global History of Art and Architecture
- HIAA 0023: South Asian Art and Architecture
- HIAA 0041: The Architectures of Islam
- HIAA 0081: Architecture of the House Through Space and Time
- HIAA 0322: The Arts of Religion and Ritual in the Ancient World

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<td>HIAA 1440B</td>
<td>The Architecture of Solitude: The Medieval Monastery</td>
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<td>HIAA 1440E</td>
<td>The Body and the Senses in Medieval Art</td>
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<td>HIAA 1440F</td>
<td>Architectural Reuse: The Appropriation of the Past</td>
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<td>HIAA 1550C</td>
<td>Dreaming of Food in the Early Modern World</td>
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<td>HIAA 1560A</td>
<td>Italy and the Mediterranean</td>
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<td>HIAA 1560E</td>
<td>The Arts of Renaissance Courts</td>
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<td>HIAA 1600A</td>
<td>Bosch and Bruegel: Art Turns the World Upside Down</td>
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<td>HIAA 1600B</td>
<td>Caravaggio</td>
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<td>HIAA 1620</td>
<td>Arts Between Europe and the World: 1500-1700</td>
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<td>HIAA 1631</td>
<td>Authority, Identity, and Visual Culture in Colonial Latin America</td>
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<td>HIAA 1720</td>
<td>The Art of Portraiture: Pre-Histories of the Selfie</td>
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<td>Eclectic Arts in the Global 19th Century</td>
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<td>Contemporary Art and Activism</td>
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<td>HIAA 1811</td>
<td>Possible Futures: Art and the Social Network before the Internet (1950-1979)</td>
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<td>HIAA 1820</td>
<td>Abstraction in Theory and Practice</td>
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<td>HIAA 1822</td>
<td>Dada and Surrealism: Anarchy, Exile, Alterity</td>
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<td>HIAA 1850G</td>
<td>Contemporary American Urbanism: City Design and Planning, 1945-2000</td>
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<td>HIAA 1850H</td>
<td>Berlin: Architecture, Politics and Memory</td>
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<td>HIAA 1850I</td>
<td>Architectures of the Sea: Space and Place in the Maritime Cultural Landscape</td>
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<td>HIAA 1880</td>
<td>Criticality and Modern Art</td>
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<td>HIAA 1881</td>
<td>Architectural Replicas in the Modern and Contemporary Eras</td>
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<td>Indigenous Art, Issues and Concepts</td>
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<td>Exhibition as Medium</td>
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<td>Contemporary Art of Africa and the Diaspora</td>
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<td>HIAA 1910A</td>
<td>Providence Architecture</td>
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<td>City Senses: Urbanism Beyond Visual Spectacle</td>
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<td>HIAA 1930</td>
<td>The History and Methods of Art Historical Interpretation</td>
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<td>HIAA 1931</td>
<td>Museums, Histories, Critiques</td>
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1 A maximum of four credits may be allowed for courses taken at other universities (transfer credits or from study abroad) or courses on art historical subjects taken in other departments. No concentration credit will be granted for AP/IB/A-level scores.

**Self-Assessment**

All concentrators are required to write an essay when they file for the concentration that lays out what they expect to gain from the course of study they propose. All second-semester seniors will be required to write a final essay that takes measure of what they have learned from the concentration, including their capstone and other experiences relating to their study of the history of art and architecture. The self-assessment should be submitted through ASK with a revised list of courses actually taken at least one month prior to graduation.

**Honors**

During the second semester of the junior year all concentrators will be invited to apply for admission to the Honors Program in History of Art and Architecture. The honors program is an opportunity for concentrators to mobilize what they have learned to make an original research contribution to the field.

Students wishing to write an honors thesis should have produced consistently excellent work and maintained a high level of achievement (i.e. a majority of “A” or “S with distinction” grades) in all concentration courses. It is advisable for them to have taken at least one seminar in the department and written a research paper before choosing to undertake a thesis. While acceptance into the Honors program depends on the persuasiveness of the thesis topic as well as the number of students applying, students may refine their proposals by speaking in advance with potential advisors. No honors student may take more than four courses either semester of their senior year—with the honors seminar being considered one of the four courses. Students interested in honors who are expecting to graduate in the middle of the year should contact the concentration advisor no later than the beginning of their junior year.

During both fall and spring semesters you will participate in the monthly meetings of the Honors cohort, in which honors students in both HIAA concentrations share their work-in-progress with each other and with the faculty member who supervises the seminar. (These monthly meetings, usually three per semester, are mandatory but do not require a course registration.) You will also enroll in your advisor’s section of HIAA 1990 (Honors Thesis) in both semesters.

Finished drafts of the thesis, which will generally be no more than 30-35 pages in length (exceptions to be determined in consultation with the instructor), not counting bibliography and visual materials, will be due to the advisor and second reader by March 1 of the Spring semester or by November 1 of the Fall semester if you plan on graduating in December. Comments will be returned to the students for final corrections at that point. There will be a public presentation of Honors work at the end of the Spring semester.

**Independent Concentration**

The Independent Concentration program is for students interested in actively constructing an interdisciplinary concentration, representing a coherent field of study that Brown does not offer and that cannot be studied cohesively within a standard concentration. Such fields may include emerging areas of study in the academy, such as “Disability Studies” or “Educational Neuroscience,” and broader interdisciplinary areas, such as “Aesthetics,” “Geography,” or “Migration Studies.” The proposal process consists of the following steps: (1) Meeting with the Curricular Resource Center's IC Peer Coordinators or IC Dean (https://www.brown.edu/academics/college/advising/curricular-resource-center/brown.edu/go/ic/); (2) Completing a draft IC Application (https://www.brown.edu/academics/college/advising/curricular-resource-center/ independent-concentrations/ic-proposal-submission/ic-proposal/) and soliciting feedback from the Peer Coordinators; (3) Identifying an approved Faculty Sponsor (an advisor) and obtaining a letter of support; and (4) Submitting the application and letter of support by one of the six deadlines during the academic year. Independent Concentration proposals are reviewed and approved by the College Curriculum Council.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Once approved, all independent concentrators receive dedicated advising support from their IC Faculty Advisor and the IC Dean. Independent Concentrators must complete a senior capstone. Students interested in pursuing honors should read the IC Honors Thesis Guidelines (https://www.brown.edu/academics/college/advising/curricular-resource-center/independent-concentrations/independent-concentrations/resources-current-icers/).

Independent concentration proposals are reviewed and approved by the College Curriculum Council.

Once approved, all independent concentrators receive dedicated advising support from their IC Faculty Advisor and the IC Dean. Independent Concentrators must complete a senior capstone. Students interested in pursuing honors should read the IC Honors Thesis Guidelines (https://www.brown.edu/academics/college/advising/curricular-resource-center/independent-concentrations/independent-concentrations/resources-current-icers/).

International and Public Affairs

The concentration in International and Public Affairs equips students with the knowledge and skills necessary to be engaged global citizens. This concentration offers three tracks: Development, Policy & Governance, and Security. All students take a common core of five classes, beginning with a choice of thematic gateway lecture courses (ideally taken during freshman or sophomore year), and then building through a required junior seminar and a required senior seminar (eligible students may choose to write an honor's thesis to satisfy the senior seminar requirement). All students choose one of three tracks of substantive specialization: Development, in which students explore issues of human development in local and global contexts; Security, which allows students to explore issues of security in both local and global contexts; and Policy and Governance, in which students explore the design, implementation, and evaluation of public policies to resolve societal challenges, as well as the governing structures that yield those policies. The concentration is committed to engaging students in the classroom, enabling research opportunities with faculty and in the field, and supporting experiential learning opportunities. Advisors' office hours and an online appointment scheduler are available here (https://watson.brown.edu/iapa/advising/).

Concentration Requirements

The concentration entails 11 courses, 5 of which apply across track specializations and 6 of which are track-specific.

The 5 common core courses include an IAPA gateway lecture course that examines broad global themes and provides an introduction to multidisciplinary analysis; one quantitative and one qualitative research methods course (language instruction at the 0400 level or above can substitute for one of the methods courses); one of the designated IAPA junior seminars (taken during the junior year); and a senior capstone course. Students may fulfill the capstone requirement by taking one of the designated IAPA senior seminars. Eligible students may choose to write an honors thesis to satisfy the senior capstone requirement. The concentration offers choices for each of these 5 common core courses, and these courses are not track-specific. All International and Public Affairs concentrators choose a track of specialization: Development, Policy & Governance, or Security. Students in each track are required to take a track foundational course (which lays out broad themes and questions for the track), and five track electives.

Concentration Requirements Summary

Gateway Course

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>IAPA 0100</td>
<td>Global Health, Humanitarianism, and Inequality</td>
</tr>
<tr>
<td>POLS 1020</td>
<td>Politics of the Illicit Global Economy</td>
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Track Foundational

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
<td>IAPA 1002</td>
<td>Foundations of Policy and Governance</td>
</tr>
<tr>
<td>IAPA 0200</td>
<td>Foundations of Development (Development Track)</td>
</tr>
<tr>
<td>IAPA 1003</td>
<td>Foundations of Security</td>
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Qualitative Research Methods

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>IAPA 1500</td>
<td>Methods in Development Research</td>
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Qualitative Research Methods

<table>
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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>ECON 1620</td>
<td>Introduction to Econometrics</td>
</tr>
<tr>
<td>or SOC 1100</td>
<td>Introductory Statistics for Social Research</td>
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Junior Seminar

<table>
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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>IAPA 1700N</td>
<td>Transitional Justice</td>
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Track Electives (See tables below)

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>IAPA 1020</td>
<td>Pathologies of the Rich (Countries): Liberal Capitalism and its Discontents</td>
</tr>
<tr>
<td>IAPA 1021</td>
<td>Experiments on Race, Class, and Gender Diversity, Power, and Identity Course Series</td>
</tr>
<tr>
<td>IAPA 1700L</td>
<td>U.S. Grand Strategy</td>
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<tr>
<td>IAPA 1700M</td>
<td>Comparative Politics of Urban Development</td>
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<tr>
<td>IAPA 1700N</td>
<td>Transitional Justice</td>
</tr>
<tr>
<td>IAPA 1701P</td>
<td>Displaced: How Global Systems Shape Refugee Families</td>
</tr>
<tr>
<td>IAPA 1700R</td>
<td>Inequality, Policy, and Economics</td>
</tr>
<tr>
<td>IAPA 1700S</td>
<td>Survey of Time: Temporality, Social Theory, and Difference</td>
</tr>
<tr>
<td>IAPA 1700T</td>
<td>Politics of Public Health: The United States in Comparative Perspective</td>
</tr>
<tr>
<td>IAPA 1700U</td>
<td>Civil Resistance</td>
</tr>
<tr>
<td>IAPA 1701</td>
<td>Drug War Politics</td>
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<tr>
<td>IAPA 1701A</td>
<td>Technology and Development</td>
</tr>
<tr>
<td>IAPA 1701B</td>
<td>Cyber Security: Strategy &amp; Policy</td>
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<tr>
<td>IAPA 1701C</td>
<td>Power and Knowledge: The “Muslim World” in the Social Sciences</td>
</tr>
<tr>
<td>IAPA 1701E</td>
<td>Gender and Capitalism</td>
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<tr>
<td>IAPA 1701F</td>
<td>Wealth and Poverty in the New Metropolis</td>
</tr>
<tr>
<td>IAPA 1701G</td>
<td>Cultures of Surveillance: Technology, Terror and Identity</td>
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<tr>
<td>IAPA 1701H</td>
<td>Is World Peace Possible?</td>
</tr>
<tr>
<td>IAPA 1701I</td>
<td>Seeking Refuge: A Global Perspective on Refugee Displacement</td>
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<td>IAPA 1701K</td>
<td>Geography of Uneven Development</td>
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<tr>
<td>IAPA 1701L</td>
<td>The Politics of Risk: Danger, Governance, and Social Inequality</td>
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<td>IAPA 1701M</td>
<td>Justice, Gender, and Markets</td>
</tr>
<tr>
<td>IAPA 1701N</td>
<td>Diplomacy, an Art That Isn’t Lost</td>
</tr>
<tr>
<td>IAPA 1701Q</td>
<td>Coercion: Deterrence and Compellence</td>
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Senior Capstone: 3

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<thead>
<tr>
<th>Course</th>
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<tr>
<td>IAPA 1800A</td>
<td>Development’s Visual Imaginaries: Still and Moving Images That Shaped the Field</td>
</tr>
<tr>
<td>IAPA 1800D</td>
<td>Law and Public Policy</td>
</tr>
<tr>
<td>IAPA 1801</td>
<td>Science and Technology Policy in the Global South</td>
</tr>
<tr>
<td>IAPA 1801C</td>
<td>Brazilian Democracy in the XXI Century: Challenges and Possibilities</td>
</tr>
<tr>
<td>IAPA 1801D</td>
<td>Politics &amp; Journalism: A Practical Guide to How We Got Here and Where We’re Going</td>
</tr>
<tr>
<td>IAPA 1801K</td>
<td>From Growth to the Green Transition</td>
</tr>
<tr>
<td>IAPA 1802A</td>
<td>Bilateral and Multilateral Policy and Diplomacy</td>
</tr>
<tr>
<td>IAPA 1802M</td>
<td>Rwanda Past and Present</td>
</tr>
<tr>
<td>IAPA 1803</td>
<td>Humanitarian Response in Modern Conflict</td>
</tr>
<tr>
<td>IAPA 1804</td>
<td>Diplomacy, Crisis, War in the Modern Era</td>
</tr>
<tr>
<td>IAPA 1804A</td>
<td>Iran and the Islamic Revolution</td>
</tr>
<tr>
<td>IAPA 1804D</td>
<td>Legal Methods for Public Policy</td>
</tr>
</tbody>
</table>

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Examples of track electives include the following:

### DEVELOPMENT TRACK
- ANTH 1150 Middle East in Anthropological Perspective
- ANTH 1301 Anthropology of Homelessness
- ECON 1370 Race and Inequality in the United States
- ECON 1540 International Trade
- ENV 1350 Environmental Economics and Policy
- HIST 1977I Gender, Race, and Medicine in the Americas
- IAPA 1402 Beyond Sun, Sea and Sand: Exploring the Contemporary Caribbean
- JUDS 1711 History of the State of Israel: 1948 to the Present
- POLS 1290 The Rise of China
- POLS 1440 Security, Governance and Development in Africa
- SOC 1270 Race, Class, and Ethnicity in the Modern World
- UNIV 1207 Eco-Entrepreneurship

### SECURITY TRACK
- CSCI 1360 Human Factors in Cybersecurity
- ECON 1070 Race, Crime, and Punishment in America
- HIST 1333 The Mexican Revolution
- HIST 1967C Making Revolutionary Cuba, 1959-Present
- POLS 1225 Nuclear Weapons
- RUSS 1220 Nationalism and Nationalities

### POLICY & GOVERNANCE TRACK
- ANTH 1601 Reimagining Climate Change
- CSCI 1951I CS for Social Change
- ECON 1385 Intergenerational Poverty in America
- ECON 1430 The Economics of Social Policy
- ECON 1300 Education, the Economy and School Reform (EDUC1600)
- ENV 1350 Environmental Economics and Policy
- PHP 1610 Tobacco, Disease and the Industry: cigs, e-cigs and more
- POLS 1140 Public Opinion and American Democracy
- POLS 1825E Health Care Politics and Policy
- URBN 1250 The Political Foundations of the City

### Seminars and Capstone

#### Junior Seminar
All International and Public Affairs concentrators, having completed at least one Gateway course, take a junior seminar during the fall or spring semester of the junior year. The seminars focus on issues in international and public affairs that can be studied in comparative global perspective, that can be subjected to multidisciplinary analysis, and that often cut across concerns about development, governance, and security. The seminars are designed to help students hone skills of critical analysis, argumentation, and the design and operation of social science research and scholarship. They simultaneously help students focus on the topics that can later be pursued as capstone or thesis projects. The junior seminars are not track-specific: students from any of the track specializations can take one of the approved junior seminars. Junior seminars are typically at the 1700-level. Junior seminars are WRIT designated.

#### Capstone
All International and Public Affairs concentrators complete a capstone course during their senior year. Designated IAPA Senior Seminars, taken during the student’s senior year, satisfy the capstone requirement. IAPA Senior Seminars require students, in their senior year, to write a research paper or extended policy brief that draws on analytic expertise, thematic expertise, regional expertise, and foreign language skills, if applicable. The capstone research project is typically about 20–25 pages in length. Senior capstone seminars are not interchangeable or substitutable with courses offered in other concentrations. Senior seminars are typically at the 1800-level. Eligible students may choose to write an honor’s thesis to satisfy the senior capstone requirement. Senior seminars are WRIT designated.

#### Honors
Students who demonstrate exceptional academic performance and scholarly achievement in the International and Public Affairs concentration have the opportunity to be recommended for graduation with honors. Students submit applications to the Honors Program (https://watson.brown.edu/iapa/requirements/honors/) in the spring semester junior year. The application form includes: primary thesis advisor signature, a well-developed social science research question, and the identification of a plan, schedule, and empirical strategy for conducting the research that will lead into writing the thesis in the fall and spring of senior year. Only those students with an approved thesis application will be permitted to enter the senior thesis seminar in the fall and/or receive thesis research grants for the summer.

#### Advising
All International and Public Affairs concentrators enjoy a multi-tiered advising system (https://watson.brown.edu/iapa/advising/) composed of the concentration’s faculty director, each student’s individual faculty mentor, the concentration’s program manager, and peer advising. The IAPA concentration seeks to match students to the faculty advisors that they (the students) request. In many cases, the concentration is able to honor the students’ first preferences. In some cases, however, students will not be matched with the faculty advisors that they request. This generally happens if and when a given faculty member already has a very high number of advisees. Spreading advising responsibilities across the faculty ensures that students will receive the attention they deserve. At the same time, regardless of particular advisor assignments, students are encouraged to reach out to members of the IAPA Faculty.
Concentration Committee or other faculty members to discuss scholarly issues or other topics of interest. This is best done by requesting an office hours appointment with the faculty member.

All of these advisors should be seen as mentors, people who are willing to meet, share their knowledge, direct students to additional advising resources if their own knowledge doesn’t cover the issue at hand, and generally lend a sympathetic ear.

**International Relations**

The objective of the International Relations concentration is to foster creative thinking about pressing global problems and to equip students with the analytic tools, language expertise, and cross-cultural understanding to guide them in that process. To this end, the concentration draws on numerous departments including political science, history, economics, anthropology, sociology, psychology, religious studies, and area studies. The IR concentration is organized around a multidisciplinary core and two sub-themes: security and society, and political economy and society. It has a three-year language requirement that must be linked to the student’s selected region of the world. All concentrators are required to undertake a capstone project using research in a second language.

The **International Relations concentration** will only accept new declarations through the class of 2023. Students in any class year can learn more about the new concentration ([https://watson.brown.edu/iapa/about/faqs/](https://watson.brown.edu/iapa/about/faqs/)) in International and Public Affairs.

**Requirements**

The IR concentration will be available to students graduating through the class of 2023.

The IR concentration requires 14 courses and the equivalent of 3 years of study of a second language. Regardless of track, all IR concentrators must take all five core courses, research methods, regional focus, and capstone courses.

**Security and Society track**

**Core Courses**

Students must take 5 core courses, preferably during freshman or sophomore year. AP credit does not count toward the concentration.

- ANTH 0110 Anthropology and Global Social Problems: Environment, Development, and Governance
- ECON 0110 Principles of Economics
- POLS 0400 Introduction to International Politics
- or POLS 0200 Introduction to Comparative Politics
- SOC 1620 Globalization and Social Conflict
- Plus 1 History course from the following:
  - HIST 0150A History of Capitalism
  - HIST 0203 Modern Africa: From Empire to Nation-State
  - HIST 0218 The Making of Modern East Asia
  - HIST 0244 Understanding the Middle East: 1800s to the Present
  - HIST 0270B From the Columbian Exchange to Climate Change: Modern Global Environmental History
  - HIST 1121 The Modern Chinese Nation: An Idea and Its Limits

**Track Requirements**

**(five courses distributed between the sub-themes):**

- Governance and Diplomacy (two or three courses):
  - COLT 1812V War, Anti-War, Postwar: Culture and Contestation in the Americas
  - CSCI 1800 Cybersecurity and International Relations
  - ENV 0160 Migration and Borders in a Time of Climate Crisis
- Security and Society (three courses):
  - ENVS 1575 Engaged Climate Policy at the UN Climate Change Talks
  - FREN 1900H La France en guerre
  - GNSS 1960M Sense and Scientific Sensibility: Beyond Vision, From the Scientific Revolution to Now
  - HIST 0150C Locked Up: A Global History of Prison and Captivity
  - HIST 0276 A Global History of the Atomic Age
  - HIST 0523B State Surveillance in History
  - HIST 0559A Culture and U.S. Empire
  - HM 1971T Law, Nationalism, and Colonialism
  - IAPA 1203 History of American Intervention
  - IAPA 1205 International Law
  - IAPA 1807A International Journalism: Foreign Reporting in Practice
  - IAPA 1801A History of American Intervention
  - IAPA 1802A Bilateral and Multilateral Policy and Diplomacy
  - IAPA 1804A Iran and the Islamic Revolution
  - IAPA 1814A Roots of Crisis in Central America
  - IAPA 1815A Computers, Freedom and Privacy: Current Topics in Law and Policy
  - ITAL 0751 When Leaders Lie: Machiavelli in International Context
  - POBS 1601C From Dictatorship to Democracy in the Iberian Peninsula: Transformations and Current Challenges
  - POLS 1020 Politics of the Illicit Global Economy
  - POLS 1220 Politics in Russia and Eastern Europe
  - POLS 1260 Maps and Politics
  - POLS 1360 U.S. Gender Politics
  - POLS 1380 Ethnic Politics and Conflict
  - POLS 1390 Global Governance
  - POLS 1410 International Security in a Changing World
  - POLS 1430 Roots of Radical Islam
  - POLS 1440 Security, Governance and Development in Africa
  - POLS 1475 War and Peace
  - POLS 1480 Theory of International Relations
  - POLS 1485 Global Justice
  - POLS 1500 The International Law and Politics of Human Rights
  - POLS 1550 War and Politics
  - POLS 1560 American Foreign Policy
  - POLS 1820H Contraband Capitalism: States and Illegal Global Markets
  - POLS 1820N International Relations in Europe
  - POLS 1821M War in Film and Literature
  - POLS 1821P Political Psychology of International Relations
  - POLS 1822A Nuclear Weapons and International Politics
  - POLS 1822I Geopolitics of Oil and Energy
  - POLS 1822J Ethics of War and Peace
  - POLS 1822K Laws of Violence
  - POLS 1822L Comparative Constitutional Law
  - POLS 1822R The Politics of Food Security
  - POLS 1822U War and Human Rights
  - POLS 1822X Technology and International Politics

For up-to-date course information please visit Courses@Brown.edu ([https://cab.brown.edu](https://cab.brown.edu)).
POLS 1823D War and Peace in International Society
POLS 1823E Market Democracy in Chile
POLS 1823F Between Colonialism and Self-Determination: A History of the International Order
POLS 1823Q Democratic Theory and Globalization
POLS 1824B Post Conflict Politics
POLS 1824Q The International Politics of Climate Change
SOC 0300G Populations in Danger
SOC 1872L 20th Century World – A Sociology of States and Empires

Society (two or three courses):

AMST 1600C The Anti-Trafficking Savior Complex: Saints, Sinners, and Modern-Day Slavery
ANTH 0302 Anthropology of Gender and Globalization
ANTH 1224 Human Trafficking, Transnationalism, and the Law
ANTH 1229 Democracy and Difference: Political Anthropology, Citizenship and Multiculturalism
ANTH 1230 Political Anthropology
ANTH 1232 War and Society
ANTH 1233 Ethnographies of Global Connection: Politics, Culture and International Relations
ANTH 1244 Religion and Secularism: Affinities and Antagonisms
ANTH 1251 Violence and the Media
ANTH 1310 Global Health: Anthropological Perspectives
ANTH 1411 Nations within States
ANTH 1412 Anthropology of State Power and Powerlessness
ANTH 1910E Media and the Middle East
ANTH 1910G Senior Seminar: Politics and Symbols
COLT 1440F 1948 Photo Album: From Palestine To Israel
COLT 1812I Collective Struggles and Cultural Politics in the Global South
ENGL 0500G Literature and Revolutions, 1640-1840
FREN 1900H La France en guerre
HIST 0150D Refugees: A Twentieth-Century History
HIST 1080 Humanitarianism and Conflict in Africa
HIST 1969B Israel-Palestine: Lands and Peoples II
HIST 1969A Israel-Palestine: Lands and Peoples I
HIST 1974J Decolonizing Minds: A People's History of the World
HMAN 1970K Law and Religion
IAPA 0100 Global Health, Humanitarianism, and Inequality
IAPA 1803A Rwanda Past and Present
IAPA 1811A Humanitarianism in Uniform
IAPA 1813A Revolutions that Changed the World
JUDS 0902 History of the Holocaust
MCM 1202J Faking Globalization: Media, Piracy and Urbanism
MCM 1502P Nation and Identity in Cinema
POBS 1601A The Birth of the Modern World: A Global History of Empires
POLS 1380 Ethnic Politics and Conflict
POLS 1530 Gender, Slavery, and Freedom
POLS 1820X Democratic Erosion
POLS 1821L International Relations of Russia, Europe and Asia
POLS 1822F Social Movements and Struggles for Justice
POLS 1823G Women and War
POLS 1823N Nationalism: Problems, Paradoxes and Power
POLS 1823V Politics of Ethnic Conflict
POLS 1824W Political Violence
RELS 0068 Religion and Torture
RELS 0090E Faith and Violence
RELS 0600C Radical Islam (?)
RELS 0841 Far-Right Religious Terrorism
RELS 1380C Law and Religion
RELS 1610 Sacred Sites: Law, Politics, Religion

Research Methods
Prior to 7th semester. Quantitative or qualitative course from the following approved list.

ANTH 1151 Ethnographies of the Muslim Middle East
ANTH 1940 Ethnographic Research Methods
APMA 0650 Essential Statistics
APMA 1650 Statistical Inference I
CLPS 0900 Statistical Methods
ECON 1620 Introduction to Econometrics
ECON 1630 Mathematical Econometrics I
POLS 0500 Foundations of Political Analysis
POLS 1600 Political Research Methods
SOC 1020 Methods of Social Research
SOC 1050 Methods of Research in Organizations
SOC 1100 Introductory Statistics for Social Research

Regional Focus
Both courses must be on the same area. Students are required to link these to language study.

Language
Three years university study or equivalent. Must correspond to region.

Capstone Course, from the following options:

Must be taken senior year. Must incorporate language skills. Students may choose from the following:

ANTH 1910G Senior Seminar: Politics and Symbols
FREN 1900H La France en guerre
HIST 1969B Israel-Palestine: Lands and Peoples II
HIST 1974J Decolonizing Minds: A People's History of the World
HMAN 1970K Law and Religion
IAPA 1804A Iran and the Islamic Revolution
IAPA 1806A Diplomacy, Economics & Influence
IAPA 1810A Perspectives in Human Capital: Investing in Women as a Strategy for Global Growth
IAPA 1808A Risk, Regulation and the Comparative Politics of Finance
IAPA 1809A The International Politics of Organized Crime
IAPA 1811A Humanitarianism in Uniform
IAPA 1816A Senior Honors Seminar

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
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<thead>
<tr>
<th>Course Code</th>
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<tr>
<td>POLS 1820H</td>
<td>Contraband Capitalism: States and Illegal Global Markets</td>
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<td>POLS 1822I</td>
<td>Geopolitics of Oil and Energy</td>
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<td>War and Human Rights</td>
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<td>POLS 1822X</td>
<td>Technology and International Politics</td>
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<td>POLS 1823I</td>
<td>Urban Politics and Policy</td>
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<td>Democratic Theory and Globalization</td>
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<td>POLS 1824B</td>
<td>Post Conflict Politics</td>
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</table>

**Total Credits**: 14

### Political Economy and Society Track

**Core Courses**: 5

Students must take all 5 core courses, preferably during freshman or sophomore year. AP credit does not count toward the concentration.

- **ANTH 0110**: Anthropology and Global Social Problems: Environment, Development, and Governance
- **ECON 0110**: Principles of Economics
- **POLS 0400** or **POLS 0200**: Introduction to International Politics or Introduction to Comparative Politics
- **SOC 1620**: Globalization and Social Conflict

Plus 1 History course from the following:

- **HIST 0150A**: History of Capitalism
- **HIST 0203**: Modern Africa: From Empire to Nation-State
- **HIST 0218**: The Making of Modern East Asia
- **HIST 0244**: Understanding the Middle East: 1800s to the Present
- **HIST 0270B**: From the Columbian Exchange to Climate Change: Modern Global Environmental History
- **HIST 1121**: The Modern Chinese Nation: An Idea and Its Limits

**Track Requirements** (five courses from distributed between the sub-themes): 5

- **Economics (two or three courses)**: All students MUST take Micro and Macro
  - **ECON 1110**: Intermediate Microeconomics
  - **ECON 1210**: Intermediate Macroeconomics
  - Plus an International Economics course:
    - **ECON 0510**: Development and the International Economy
    - **ECON 0520**: The Economics of Gender Equality and Development
    - **ECON 1450**: Economic Organizations and Economic Systems
    - **ECON 1500**: Current Global Macroeconomic Challenges
    - **ECON 1510**: Economic Development
    - **ECON 1530**: Health, Hunger and the Household in Developing Countries
    - **ECON 1540**: International Trade
    - **ECON 1550**: International Finance
    - **ECON 1560**: Economic Growth
    - **ECON 1570**: The Economics of Latin Americans
    - **ECON 1590**: The Economy of China since 1949
    - **ECON 1760**: Financial Institutions
    - **ECON 1850**: Theory of Economic Growth

- **Political Economy (two or three courses)**:
  - **ANTH 0450**: Inequality, Sustainability, and Mobility in a Car-Clogged World

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Students may choose from the following:

Prior to 7th semester, Quantitative or qualitative course from the following approved list:
- ANTH 1151 Ethnographies of the Muslim Middle East
- ANTH 1940 Ethnographic Research Methods
- APMA 0650 Essential Statistics
- APMA 1650 Statistical Inference I
- CLPS 0900 Statistical Methods
- ECON 1620 Introduction to Econometrics
- ECON 1630 Mathematical Econometrics I
- POLS 0500 Foundations of Political Analysis
- POLS 1600 Political Research Methods
- SOC 1020 Methods of Social Research
- SOC 1050 Methods of Research in Organizations
- SOC 1100 Introductory Statistics for Social Research

Regional Focus

Both courses must be on the same area. Students are required to link these to language study.

Language

Three years university study or equivalent. Must correspond to region.

Capstone Course, from the following options:

Must be taken senior year. Must incorporate language skills. Students may choose from the following:
- ANTH 1910G Senior Seminar: Politics and Symbols
- FREN 1900H La France en guerre
- HIST 1969B Israel-Palestine: Lands and Peoples II
- HIST 1974J Decolonizing Minds: A People's History of the World
- HMAN 1970K Law and Religion
- IAPA 1804A Iran and the Islamic Revolution
- IAPA 1806A Diplomacy, Economics & Influence
- IAPA 1808A Risk, Regulation and the Comparative Politics of Finance
- IAPA 1809A The International Politics of Organized Crime
- IAPA 1810A Perspectives in Human Capital: Investing in Women as a Strategy for Global Growth
- IAPA 1811A Humanitarianism in Uniform
- IAPA 1816A Senior Honors Seminar
- POLS 1820H Contraband Capitalism: States and Illegal Global Markets
- POLS 1821L International Relations of Russia, Europe and Asia
- POLS 1822I Geopolitics of Oil and Energy
- POLS 1822U War and Human Rights
- POLS 1822X Technology and International Politics
- POLS 1823E Market Democracy in Chile
- POLS 1823G Women and War
- POLS 1823Q Democratic Theory and Globalization
- POLS 1824B Post Conflict Politics
- POLS 1824J Culture, Identity and Development

Total Credits 14

The program has a director/concentration advisor and two faculty track advisors to assist students in planning their academic programs.

Italian Studies

Inherently interdisciplinary, the Italian Studies concentration allows students to strengthen their language skills in Italian and deepen their knowledge of Italian literature, history, art, and culture. Most concentrators have some background in Italian language. However, it is possible to concentrate in Italian studies without having studied the language before coming to Brown, although doing so requires an early start. After fulfilling the language requirement by completing up to ITAL 0600 (or the equivalent), students enroll in a variety of advanced courses, reflecting the interdisciplinary nature of the concentration. Junior concentrators often study abroad in the Brown Program in Bologna. All senior concentrators participate in the “senior conference” by delivering brief presentations on academic topics of their choice in Italian Studies. Concentrators might also pursue capstone research, writing, or multimedia projects.

The concentration requires that students demonstrate proficiency in the Italian language by completing up to ITAL 0600 (or the equivalent in Bologna). ITAL 0400 is the first language course that counts toward the ten required courses for the concentration (except for students who place out of ITAL 0400, who will need to complete a total of nine courses). At least four of the ten courses should be taken in Italian.

ITALIAN STUDIES COURSES

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITAL 0400</td>
<td>Introduction to Italian Cinema: Italian Film and History</td>
</tr>
<tr>
<td>ITAL 0550</td>
<td>Gold, Wool and Stone: Painters and Bankers in Renaissance Tuscany (HIAA 0550)</td>
</tr>
<tr>
<td>ITAL 0560</td>
<td>Constructing the Eternal City: Popes and Pilgrims in Renaissance Rome (HIAA 0560)</td>
</tr>
<tr>
<td>ITAL 0600</td>
<td>Advanced Italian II</td>
</tr>
<tr>
<td>ITAL 0750</td>
<td>Truth on Trial: Justice in Italy</td>
</tr>
<tr>
<td>ITAL 0751</td>
<td>When Leaders Lie: Machiavelli in International Context</td>
</tr>
<tr>
<td>ITAL 0900</td>
<td>The Grand Tour, or a Room with a View: Italy and the Imagination of Others</td>
</tr>
<tr>
<td>ITAL 0975</td>
<td>Let’s Eat, Italy: Italian History and Culture through Food</td>
</tr>
<tr>
<td>ITAL 0981</td>
<td>When Leaders Lie: Machiavelli in International Context</td>
</tr>
<tr>
<td>ITAL 0985</td>
<td>Visions of War: Representing Italian Modern Conflicts</td>
</tr>
<tr>
<td>ITAL 1000A</td>
<td>Luigi Pirandello: Masks and Society</td>
</tr>
<tr>
<td>ITAL 1000B</td>
<td>Reading Recent Italian Fiction</td>
</tr>
<tr>
<td>ITAL 1000C</td>
<td>Nord - Sud e Identità Italiana</td>
</tr>
<tr>
<td>ITAL 1000D</td>
<td>Italian National Identity: Criticisms and Crises</td>
</tr>
<tr>
<td>ITAL 1000E</td>
<td>Masterpieces of Italian Cinema - Capolavori del cinema italiano</td>
</tr>
<tr>
<td>ITAL 1000F</td>
<td>20th Century Italian Poetry</td>
</tr>
<tr>
<td>ITAL 1000G</td>
<td>Italian Identity</td>
</tr>
<tr>
<td>ITAL 1000H</td>
<td>Resounding Cinema</td>
</tr>
<tr>
<td>ITAL 1010</td>
<td>Dante in English Translation: Dante’s World and the Invention of Modernity</td>
</tr>
<tr>
<td>ITAL 1020</td>
<td>Decameron: Technologies of Representation, Medieval to Modern</td>
</tr>
<tr>
<td>ITAL 1029</td>
<td>World Cinema in a Global Context</td>
</tr>
</tbody>
</table>

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Undergraduate Concentrations

ITAL 1030A  Fellini
ITAL 1310  Literature of the Middle Ages
ITAL 1320  Great Authors and Works of Italian Renaissance
ITAL 1340  The Panorama and 19th-Century Visual Culture
ITAL 1350A  Transmedia Storytelling and the New Italian Epic.
ITAL 1350B  Non Fiction
ITAL 1360  Renaissance Italy
ITAL 1380  Italy: From Renaissance to Enlightenment
ITAL 1390  Modern Italy
ITAL 1400A  "Italian (Mediterranean) Orientalisms"
ITAL 1400B  Fascism and Antifascism: Culture and Literature between the Two World Wars
ITAL 1400C  Literature and Adolescence
ITAL 1400D  Photography and Literature: Italian Examples of an Uncanny Relationship
ITAL 1400F  Twentieth Century Italian Culture
ITAL 1400H  Early Modern Italy
ITAL 1400I  Rituals, Myths and Symbols
ITAL 1400J  The Many Faces of Casanova
ITAL 1400K  Italy as Other
ITAL 1400L  History of Masculinity and Femininity from the Unification to 1968
ITAL 1400M  Giorgio Agamben and Radical Italian Theory
ITAL 1400P  The Southern Question and the Colonial Mediterranean
ITAL 1400Q  From Neorealism to Reality TV
ITAL 1420  Sex and the Cities: Venice, Florence, and Rome, 1450-1800
ITAL 1430  Popular Culture, 1400 - 1800
ITAL 1431  Truth on Trial: Justice in Italy, 1400-1800 (HIST 1262M)
ITAL 1550  Italian Representations of the Holocaust
ITAL 1550B  Topics in the Early History of Printmaking: Festival and Carnival (HIAA 1550B)
ITAL 1560A  Italy and the Mediterranean (HIAA 1560A)
ITAL 1580  Word, Image and Power in Early Modern Italy
ITAL 1590  Word, Media, Power in Modern Italy
ITAL 1610  The Divina Commedia: Inferno and Purgatorio
ITAL 1620  The Divina Commedia: Dante's Paradiso: Justifying a Cosmos
ITAL 1920  Independent Study Project (Undergraduate)
ITAL 1990  Senior Conference
ITAL 2100  Introduction to Italian Studies
ITAL 2190B  Fascism and Antifascism: Culture and Literature between the Two World Wars
ITAL 2190G  Letteratura Italiana del Novecento
ITAL 2220  New Perspectives on Fascism

COURSES IN OTHER DEPARTMENTS
HIAA 0340  Roman Art and Architecture: From Julius Caesar to Hadrian
HIAA 0550  Painters, Builders, and Bankers in Early Modern Italy
HIAA 0560  Constructing the Eternal City: Popes and Pilgrims in Early Modern Rome
HIAA 1200D  Pompeii
HIAA 1301  The Palaces of Ancient Rome
HIAA 1302  Women and Families in the Ancient Mediterranean
HIAA 1303  Pompeii: Art, Architecture, and Archaeology in the Lost City
HIAA 1550B  Topics in the Early History of Printmaking: Festival and Carnival
HIAA 1560A  Italy and the Mediterranean
HIAA 1560C  Renaissance Venice and the Veneto
HIAA 1560D  Siena from Simone Martini to Beccafumi
HIAA 1560F  Topics in Italian Visual Culture: The Visible City, 1400-1800
HIAA 1600C  Italian Baroque Painting and Sculpture
ARCH 1155  Cities, Colonies and Global Networks in the Western Mediterranean
MUSC 0071  Opera

Italian Studies Concentration and the Brown Program in Bologna
Concentrators who enroll in the Brown in Bologna program should fulfill the requirements according to the following sequence: prior to departure, the student should complete the level of Italian language study required (ITAL 0300) and enroll in one of the courses in the four distribution areas -- Italian literature; Italian History; history of Italian art and architecture; film or performance. Upon return from Bologna, the student should enroll in at least one advanced course offered by the department, preferably a course taught in Italian. Any student returning from the Bologna program must enroll in a course above the language level of ITAL 0600. Credits toward the Italian Studies concentration may also be transferred from the Brown in Bologna Program. Concentrators may count three courses per semester toward the concentration (or six courses total for the year), although the course content must focus on Italy if the student wishes to count the course toward the concentration requirements. Concentrators should consult the concentration advisor to know which courses may or may not transfer as credits toward the concentration.

Honors in Italian Studies
Concentrators are encouraged to expand their understanding of Italian language, history, or culture through independent research that will result in a thesis, a translation, or a multimedia project, developed in consultation with the undergraduate concentration advisor and the individual faculty member who will advise the student's project. The Honors thesis in Italian Studies is a two-semester thesis. Students who intend to complete an honors project should enroll for the first semester in ITAL 1920 (Independent Study), and have their project approved by their advisor by October 15. During the second semester, honors students enroll in one course per semester in addition to ITAL 1990 and continue to work with their advisor to complete the project. ITAL 1990 does not count as one of the eight courses required for the concentration.

Capstone Experiences in Italian Studies
A Capstone experience in Italian Studies would consist of a course or project that a student, in consultation with the undergraduate advisor, feels would integrate the various intellectual engagements of this interdisciplinary concentration, and constitute a culminating experience in Italian Studies at Brown. Such experiences are strongly encouraged, and should be arrived at through conversations with the concentration advisor or a professor in the department. This could include the Brown Program in Bologna, typically taken in the Junior year, and/or the honors thesis in the senior year. However, students may also apply early in the Fall or Spring semester of their senior year for permission to designate one of their courses (1000-level or above) a Capstone course. In consultation with the professor, students in Capstone courses complete an independent research, writing, or multimedia project that is well beyond the required assignment for the course. ITAL 1920 (Independent Study) may also be designated a Capstone course with the permission of the instructor.
Judaic Studies

Jews have lived and flourished over thousands of years in a variety of social contexts, stretching from the Land of Israel and the eastern Mediterranean to Asia, Africa, Europe, and the Americas. Concentrators will have the opportunity to study Jews in these contexts, getting to know their social structures, and what they have created. The subjects of study cover an astonishing range, including history and society, Jewish law and philosophy, and Jewish literature and ritual. Students will learn to unlock this wealth in both the ancient and the modern worlds through a number of academic disciplines - History, Religious Studies, and Literature. These also provide tools for studying and analyzing human societies and cultures in general, for which Jewish experiences provide an important perspective.

PROGRAM IN JUDAIC STUDIES

Required Coursework

A concentration in Judaic Studies includes the following requirements:

1. All students are required to take a total of 10 courses that count toward the concentration.
2. All students must take one full year of modern Hebrew (two of the 10 required courses for the concentration) or fulfill the Hebrew requirement through examination. Usually, the Hebrew requirement is fulfilled by taking HEBR 0100 and HEBR 0200. Fulfillment of the Hebrew requirement through examination does not reduce the total number of 10 courses required for the concentration.
3. Students choosing to continue with Hebrew language study may count up to two additional Hebrew courses (HEBR 0300, HEBR 0400, or HEBR 0500) toward fulfillment of the concentration requirements. HEBR 0600 is counted as a regular, non-language course for the purposes of fulfilling concentration requirements.
4. Of the courses required for a concentration in Judaic Studies, students must fulfill both a historical and a methodological breadth requirement. For example, students primarily studying ancient Judaism must enroll in at least one course in medieval or modern Judaism, and students studying primarily modern Judaism must enroll in at least one class focusing on the ancient or medieval period. In addition, at least one course should offer training in a discipline different from the student’s primary disciplinary interest (e.g., a student whose main interest is Jewish history will take at least one course in Jewish thought, literature or religion). These two breadth requirements ensure that the student gains a broader perspective on Judaic Studies as an interdisciplinary/multidisciplinary field of study concerned with Jews and Judaism over three millennia of history.
5. Subject to the approval of the concentration adviser, up to two courses outside of Judaic Studies that relate directly to the concentration may be counted toward the concentration (e.g., a course on a particular historical context, in a particular discipline, or on a relevant topic, including courses taken abroad that are approved by Brown for transfer credit).
6. After consultation with the concentration adviser, each senior concentrator who is not writing a senior thesis in Judaic Studies to fulfill the capstone requirement will designate an advanced course (1000 level) in Judaic Studies as that student’s capstone course. Alternatively, seniors may choose to do an independent study with a Judaic Studies faculty member that will function as the capstone course. Within the context of the capstone course, the student will conduct independent research and write a substantial paper of 20-25 pages on a topic in Judaic Studies that displays in an appropriate way the theoretical and methodological approaches, as well as the interpretive issues, most of interest to the student, thereby engaging the student’s particular disciplinary focus/foci in a serious and substantive way. The student, in consultation with the capstone instructor, will complete the capstone form by the end of the second week of classes of the semester during which the capstone will be undertaken and submit the form to the concentration adviser for final approval. The form includes questions about the capstone course, the topic of the paper, the disciplinary approach(es) the student intends to utilize, and how the paper will fulfill the goals of the capstone. The capstone is an opportunity for students to hone their writing skills, to enhance their ability to undertake independent research, to learn more about and experience Judaic Studies as an interdisciplinary/multidisciplinary field, to make well-considered choices with regard to the topic or problem to be examined and the disciplinary approach(es) to be utilized, and to make use of language skills where appropriate.
7. Double concentrators may count up to two courses that deal with Jewish history, society, culture or religion that they have used to complete the requirements of their other concentration toward their Judaic Studies concentration.
8. Each student who opts to write a senior thesis to fulfill the capstone requirement will approach a potential thesis adviser in Judaic Studies before the end of the second semester of the junior year and secure that faculty member’s agreement to advise the thesis. The thesis will be written over two semesters during the senior year and constitute two of the 10 required courses for the concentration. By the end of the second week of classes of the senior year, the student will present the concentration adviser with a succinct thesis plan approved by the thesis adviser. The second reader of each thesis will be chosen by the concentrator in consultation with the thesis adviser before the end of September of the senior year. Once the second reader has agreed to participate, the second reader will read a draft of each chapter of the thesis and provide feedback after it has been approved by the thesis adviser. In no case will the second reader be invited to participate after the thesis has been completed.
9. Study Abroad or Elsewhere in the US: Students who study at other institutions, either in the United States or abroad, may apply up to two topical courses (non-language study) toward completion of the concentration’s requirements as long as Brown approves the courses for transfer credit. These approved courses will count as the two courses taken outside Judaic Studies. Students who study in Israel are required to enroll in a one month Summer/Winter Ulpan (a Hebrew language and cultural immersion course) prior to the beginning of the semester as well as a Hebrew language course during their semester in Israel. Students will receive one transfer credit toward the concentration for both of these language courses combined. Students whose level of proficiency allows them to enroll in a university course conducted in Hebrew are exempt from the Ulpan requirement.

Student Goals

Students in this concentration will:

• Have an opportunity to explore aspects of the history, culture, literature, religion, politics, thought and societies of the Jews from ancient times to the present
• Acquire at minimum an elementary proficiency in Hebrew
• Complete a capstone course or honors thesis
• Have an opportunity to explore some of the ways in which more than one discipline contributes to the study of Jews and Judaism through time and space
• Have an opportunity to learn about the often complex dynamics characteristic of the interactions of Jews with others in their larger environment as well as the reciprocal influences of Jewish and non-Jewish cultures.

Further Information

Students who are interested in further information about the concentration should contact the Judaic Studies Office at 163 George Street to make an appointment with the undergraduate concentration advisor. [Tel: 401.863.3910] or Judaic@brown.edu.

Latin American and Caribbean Studies

The concentration in Latin American and Caribbean Studies (LACA) leads to a strong, interdisciplinary understanding of culture, history, and contemporary issues in Latin America, the Caribbean, and the Latinx diaspora.

Requirements are intentionally broad and flexible to accommodate the focused interests of students in understanding the diverse reality of this region. Concentration requirements include four themes: language, area studies, research, and internship or service work. A wide selection for up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
of courses from departments across the University expose students to the methods and materials of different disciplines and provide a background in the contemporary and historical contours of Latin American, Caribbean, and Latinx societies. For more information, contact the Director of Undergraduate Studies, Professor Erica Durante (erica_durante@brown.edu?subject=LACA%20concentration).

Concentration Requirements

1. Ten courses on Latin American, Caribbean, and/or Latinx subjects. These may be explicitly designated as LACA classes, but do not need to be. Up to two of these courses can be language learning classes. Relevant courses from study abroad may count toward this total. For double concentrators, up to two classes can count toward the course requirements of both LACA and another concentration. At least two different academic disciplines should be represented in the ten courses. Courses in which the student did substantial work on a Latin American, Caribbean, or Latinx subject may count toward this total, even if the course a whole has a more general subject matter. Concentrators should periodically update their courses on ASK and confirm with the Director of Undergraduate Studies that they are on track to meeting the coursework requirement.

The courses must include at least one survey course providing a comprehensive and comparative view of the region. Examples include the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>LACA 0500</td>
<td>Around Latin America in 80 Days: An Historical and Cultural Journey</td>
</tr>
<tr>
<td>LACA 1504G</td>
<td>Arts of the Environment in the Americas</td>
</tr>
<tr>
<td>LACA 1510I</td>
<td>Urban Latin America</td>
</tr>
<tr>
<td>LACA 1630</td>
<td>Engaged Humanities: Storytelling in the Americas</td>
</tr>
<tr>
<td>HISP 0730</td>
<td>Encounters: Latin America in Its Literature and Culture</td>
</tr>
<tr>
<td>HISP 1330Z</td>
<td>Tropical Fictions: Geography and Literature in Latin American Culture</td>
</tr>
<tr>
<td>HIST 0234</td>
<td>Modern Latin America</td>
</tr>
<tr>
<td>HIST 1966Q</td>
<td>Colonial Encounters and the Creation of Latin America</td>
</tr>
<tr>
<td>POLS 1210</td>
<td>Latin American Politics</td>
</tr>
<tr>
<td>POBS 0280</td>
<td>Mapping Food, Eating Meaning, Making Community: A Welcome to the Lusophone world</td>
</tr>
</tbody>
</table>

2. Competence in a Latin American and/or Caribbean language. Competence in Spanish, Portuguese, French, Haitian Kreyol, Kaqchikel Maya, etc. may be demonstrated through a departmental test, AP credit, language courses at Brown or elsewhere, study abroad, etc; please contact the concentration advisor to confirm. (If the student’s primary area of study is the Anglophone Caribbean, a field language is not necessary.)

3. An internship or volunteer service. Located in the U.S. or overseas, for one semester or one summer. Work completed during study abroad may count toward this requirement. The service work will connect theory to practice, applying scholarly knowledge to social challenges. Students are encouraged to consult with the Swearer Center for Public Service for assistance finding a volunteer placement. Students should also meet the methods and materials of different disciplines and provide a background in the contemporary and historical contours of Latin American, Caribbean, and Latinx societies. For more information, contact the Director of Undergraduate Studies, Professor Erica Durante (erica_durante@brown.edu?subject=LACA%20concentration).

The project may be completed for honors if the student is eligible (see Honors, below).

All concentrators are required to enroll in LACA 1900 during their junior or senior year to complete their Capstone project requirement (capstone project or honors thesis). In addition to this course, students may also elect to enroll in one or two semesters of independent study (LACA 1990, LACA 1991) with their thesis/project advisor. All Honors Candidates are expected to attend the Annual Concentration Research Day and to give a 10-minute oral presentation of their honors thesis project followed by a short Q&A.

Writing Requirement

To satisfy Brown’s writing requirement as a LACA concentrator (which must be completed by the end of the 7th semester), students are encouraged to consider courses that have an emphasis on revision and feedback such as the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>LACA 1900</td>
<td>Preparation for Honors and Capstone Projects on Latin American and Caribbean Topics</td>
</tr>
<tr>
<td>ETHN 1200D</td>
<td>Latin Literature</td>
</tr>
<tr>
<td>LACA 0500</td>
<td>Around Latin America in 80 Days: An Historical and Cultural Journey</td>
</tr>
<tr>
<td>LACA 1504G</td>
<td>Arts of the Environment in the Americas</td>
</tr>
<tr>
<td>LACA 1630</td>
<td>Engaged Humanities: Storytelling in the Americas</td>
</tr>
<tr>
<td>COLT 0710I</td>
<td>New Worlds: Reading Spaces and Places in Colonial Latin America</td>
</tr>
<tr>
<td>HISP 0730</td>
<td>Encounters: Latin America in Its Literature and Culture</td>
</tr>
<tr>
<td>HIST 0233</td>
<td>Colonial Latin America</td>
</tr>
<tr>
<td>HIST 1977I</td>
<td>Gender, Race, and Medicine in the Americas</td>
</tr>
</tbody>
</table>

Engaged Scholars Program

The concentration also allows students to pursue the Engaged Scholars Program (http://watson.brown.edu/clacs/node/654/). The Engaged Scholars Program (ESP) in Latin American and Caribbean Studies (LACA) is designed for LACA concentrators who are especially interested in making deeper connections between their academic work and local communities in Providence and beyond. Engaged Scholars combine hands-on experiences such as internships, public service, humanitarian, and development work with their academic learning in order to develop a deeper understanding of, and appreciation for, social engagement.

Honors

Qualified undergraduates may work towards the A.B. in Latin American and Caribbean Studies with Honors.

Requirements to graduate with Honors:

1. Maintenance of at least an A- average in the ten courses counting for the Latin American and Caribbean Studies concentration
2. Maintenance of at least a B+ average in all course work at Brown
3. Completion of a senior honors thesis or project with a grade of A Grades of S do not negatively affect the eligibility for honors.

Graduating seniors with Honors in Latin American and Caribbean Studies are eligible for an award administered by the concentration for Outstanding Senior Thesis or Project.

Senior Honors Thesis or Project Timeline:

For Senior-Year Students-

- **By the end of sixth semester:** Students fill and submit a one page proposal to the concentration advisor the Honors Thesis Declaration Form available online in the LACA Undergraduate Concentration webpage (https://watson.brown.edu/clacs/education/undergraduate). In addition they are expected to submit via ASK a short letter from a supervisor confirming the completion of the work.

4. A capstone project. This may be a senior honors thesis or creative project, supervised by a primary advisor and a secondary reader; a non-honors research paper; or a reflective paper about non-academic work (such as service or foreign study) related to Latin America, the Caribbean or the Latinx experience.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
year may apply for admission to the Honors Program but must meet the application deadline. Students in this position should start thinking about a proposal and contact advisors well in advance.

- **By January 15:** Students submit the first section of their thesis or project to their research advisor for review. They should agree with their advisor on the schedule for the remaining portions.

- **By March 15:** A draft of the entire thesis or project is due to the primary advisor and the secondary reader for review and feedback.

- **By 5 pm EST on April 15:** The final, complete senior honors thesis or project is due.

- Students submit one paper copy and one electronic copy to the concentration advisor and one electronic copy to the Brown Library Digital Repository (BDR).

For Mid-Year Completers:
Mid-year completors must apply for the Honors Program their 6th semester, as 2nd semester Juniors. They undertake the thesis in their 7th and 8th semesters, allowing them to complete the following Honors course sequence:

- **By the end of the 6th semester:** Students fill and submit to the concentration advisor the Honors Thesis Declaration Form available online in the LACA Undergraduate Concentration webpage (https://watson.brown.edu/clacs/education/undergraduate). In the form, they are expected to indicate their thesis or project title and short description. The Honors Thesis Declaration Form must be signed by a primary advisor.

- **By September 15:** Students submit the first section of their thesis or project to their research advisor for review. They should agree with their advisor on the schedule for the remaining portions.

- **By October 15:** A draft of the entire thesis or project is due to the primary advisor and the secondary reader for review and feedback.

- **By 5 pm on November 15:** The final, complete senior honors thesis or project is due.

- Students submit one copy each to the primary advisor and the secondary reader.

- Students submit one paper copy and one electronic copy to the concentration advisor and one electronic copy to the Brown Library Digital Repository (BDR).

### Linguistics

Language is a uniquely human capacity that enables us to communicate a limitless set of messages on any topic. While human languages can differ greatly in certain respects, all are intricate, complex, rule-governed systems. Linguistics is the scientific study of these systems, their use for communication in rich social settings, and their cognitive underpinnings. The linguistic concentration at Brown gives students a background in the "core" aspects of the language system: phonetics/phonology (the study of speech sounds and their patterning), syntax (the study of combinatorics of words, phrases, and sentences), semantics/pragmatics (the study of the meanings of both words and larger expressions, and how they interact with communicative goals), and how language is produced, understood, and learned by children and adults (psycholinguistics). Beyond this, students may focus more heavily in one or more of these areas and/or explore related questions such as how core aspects of language do (and do not) vary, including through the use linguistic fieldwork on understudied languages, or how probabilistic tendencies and variability in language usage relate to grammar. Other areas such as historical linguistics, computational linguistics, sociolinguistics, philosophy of language, and linguistic anthropology can also be pursued in conjunction with offerings in other departments.

Students who wish to pursue one or more aspects of Linguistics in greater depth than does the Bachelor of Arts, and to focus on some of the more technical, computational, and/or experimental areas of the field may choose to take a Bachelor of Science in Linguistics. Students will choose a focus pathway which will direct their choices. Pathways include: Language, Computation, and Information; Language, Mind, and Brain; Meaning and Logic, or one of the student's design, with approval from the concentration advisor.

### A.B. Requirements (10 courses)

#### Prerequisite Course

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLPS 0300</td>
<td>Introduction to Linguistics (May be waived in special instances)</td>
<td>1</td>
</tr>
</tbody>
</table>

#### Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>CLPS 1310</td>
<td>Phonology</td>
<td>1</td>
</tr>
<tr>
<td>OR</td>
<td>Introduction to Syntax</td>
<td>1</td>
</tr>
<tr>
<td>CLPS 1331</td>
<td>Linguistic Variation and Universals</td>
<td>1</td>
</tr>
</tbody>
</table>

AND one of:

- CLPS 1341 Lexical Semantics
- CLPS 1342 Compositional Semantics
- CLPS 1370 Pragmatics

One course in Psycholinguistics to be drawn from the following:

- CLPS 0800 Language and the Mind
- CLPS 1650 Child Language Acquisition
- CLPS 1660 Learning Compositional Language
- CLPS 1800 Language Processing
- CLPS 1850 Language Processing in Humans and Machines
- CLPS 1890 Laboratory in Psycholinguistics

or any Topics Course in Language Acquisition or Language Processing

5 additional appropriate electives forming a thematically related set to be determined in consultation with the Concentration Advisor. At least one of these must be drawn from the list of advanced courses listed below, and we strongly recommend that at least one course be an appropriate methods and a topics course. No more than 2 of these courses may be drawn below 1000 level courses. The electives can be drawn from any of the above courses, or any of the other linguistic/language related courses in the CLPS department. Electives may also be drawn from courses in other in consultation with the Concentration Advisor; a list of courses which standardly count towards the Linguistics Concentration (provided they form part of the thematically related set) is appended below.

#### Advanced Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLPS 1342</td>
<td>Compositional Semantics</td>
<td>1</td>
</tr>
<tr>
<td>CLPS 1360</td>
<td>Introduction to Corpus Linguistics</td>
<td>1</td>
</tr>
</tbody>
</table>

A course from the 1381 series (Topics in Phonetic & Phonology)

A course from the 1383 series (Topics in Syntax and Semantics). For example:

- CLPS 1383D Topics in Syntax and Semantics
- CLPS 1385 Topics in Language Acquisition
- CLPS 1389 Series (Topics in Language Processing)

CLPS 1390 Linguistic Field Methods

CLPS 1800 Series (Topics in Psycholinguistics)

CLPS 1890 Laboratory in Psycholinguistics

#### Other Courses Routinely Fulfilling Linguistics Concentration Requirements (in consultation with the Concentration Advisor):

NOTE: This is NOT an exhaustive list of courses that can be applied towards the Linguistics Concentration requirements.

- ANTH 0800 Sound and Symbols: Introduction to Linguistic Anthropology
- ANTH 1800 Sociolinguistics, Discourse and Dialogue

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Undergraduate Concentrations

CLPS 0050M Playing with Words: The Linguistic Principles Behind Word Games and Puzzles
CLPS 1365 Historical Linguistics
CSCI 1460 Computational Linguistics
EGYT 2310 History of the Ancient Egyptian Language
SLAV 1300 Sociolinguistics (with Case Studies on the Former USSR and Eastern Europe)
PHIL 0640 Logic
PHIL 1850 Philosophy of Language

Total Credits: 10

1 It is recommended that students take CLPS 1330 or CLPS 1331 before higher level courses.

Honors (12 courses)
Candidates for Honors in Linguistics must meet all of the requirements above, write an Honors thesis, and take two additional courses. One course is normally CLPS 1980 (Directed Research in Cognitive, Linguistic, and Psychological Sciences) - intended for work on the Honors thesis.

Three of the total 12 courses must be drawn from the advanced list above (the Directed Research course counts as one of the advanced courses).

Refer to the CLPS Honors Program page for detailed information about the Linguistics Honors program.

Independent Study
Independent study is encouraged for the A.B. degree. Students should sign up for CLPS 1980 with a faculty advisor who is a member of the Department of Cognitive and Linguistic Sciences (CLPS). Arrangements should be made in Semester 6 for students expecting to do independent study during Semesters 7 and/or 8.

Do Foreign Language Courses Count?
Foreign language courses will generally not count towards the concentration requirements, except those that focus on the structure or history of the language. Students are, however, advised to gain familiarity with a foreign language, and are encouraged to take at least one course which deals with the structure of a language other than English.

ScB Requirements (16 courses)
Students who wish to pursue one or more aspects of Linguistics in greater depth than does the A.B., and to focus on some of the more technical, computational, and/or experimental areas of the field may choose to take an Sc.B in Linguistics. Students will choose a focus pathway which will direct their choices. Three possible pathways are described below in additional detail, though other pathways are possible, if approved by the concentration advisor. The core requirements are:

- One gateway course
- Four breath requirements, one each in Phonology, Syntax, Semantics or Pragmatics, and Psycholinguistics.
- Three electives in the focus area (see individual pathways below)
- Four non-linguistic focus area electives (see individual pathways below)
- Two breath requirements that satisfy the Linguistics AB requirement. These could serve as a secondary focus area.
- One additional linguistics course, either as additional breadth or in the focus area
- One Capstone course

Language, Computation, and Information Pathway

Gateway course 1

CLPS 0300 Introduction to Linguistics

At least one course in phonetics / phonology, such as: 1

CLPS 1310 Phonology

At least one course in syntax, such as: 1

CLPS 1330 Introduction to Syntax
CLPS 1331 Linguistic Variation and Universals

At least one course in semantics / pragmatics, such as: 1

CLPS 1341 Lexical Semantics
CLPS 1342 Compositional Semantics
CLPS 1370 Pragmatics

At least one course in psycholinguistics, such as: 1

CLPS 0800 Language and the Mind
CLPS 1650 Child Language Acquisition
CLPS 1660 Learning Compositional Language
CLPS 1800 Language Processing
CLPS 1850 Language Processing in Humans and Machines

CLPS 1890 Laboratory in Psycholinguistics

Three electives specifically in the focus area, such as: 3

CLPS 1360 Introduction to Corpus Linguistics
CLPS 1361 Information Theory in Language
CLPS 1800 Language Processing
CLPS 1850 Language Processing in Humans and Machines
CSCI 0220 Introduction to Discrete Structures and Probability
CSCI 1460 Computational Linguistics

Four non-linguistic focus area electives, such as: 4

CLPS 0950 Introduction to programming
CLPS 2908 Multivariate Statistical Techniques
APMA 1650 Statistical Inference I
CSCI 1850 Machine Learning
CSCI 1951A Data Science
PHP 1560 Statistical Programming in R
MATH 0520 Linear Algebra

Two additional courses outside the main focus that satisfy the Linguistics AB requirement, such as: 2

CLPS 1390 Linguistic Field Methods
CLPS 1331 Linguistic Variation and Universals
ANTH 1800 Sociolinguistics, Discourse and Dialogue
SLAV 1300 Sociolinguistics (with Case Studies on the Former USSR and Eastern Europe)

Or many others (see Linguistics AB for examples)

One additional class in linguistics (related or unrelated to the focus area), such as: 1

CLPS 1342 Compositional Semantics
CLPS 1850 Language Processing in Humans and Machines

One independent study / capstone requirement 1

CLPS 1970 Directed Reading in Cognitive, Linguistic and Psychological Sciences
CLPS 1980 Directed Research in Cognitive, Linguistic and Psychological Sciences

Total Credits: 16

Language, Mind and Brain Pathway

Gateway course 1

CLPS 0300 Introduction to Linguistics

At least one course in phonetics / phonology, such as: 1

CLPS 1310 Phonology

At least one course in syntax, such as: 1

CLPS 1330 Introduction to Syntax
CLPS 1331 Linguistic Variation and Universals

At least one course in semantics / pragmatics, such as: 1

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLPS 131</td>
<td>Linguistic Variation and Universals</td>
</tr>
<tr>
<td>CLPS 1341</td>
<td>Lexical Semantics</td>
</tr>
<tr>
<td>CLPS 1342</td>
<td>Compositional Semantics</td>
</tr>
<tr>
<td>CLPS 1370</td>
<td>Pragmatics</td>
</tr>
<tr>
<td><strong>At least one course in semantics / pragmatics, such as:</strong></td>
<td></td>
</tr>
<tr>
<td>CLPS 0800</td>
<td>Language and the Mind</td>
</tr>
<tr>
<td>CLPS 1650</td>
<td>Child Language Acquisition</td>
</tr>
<tr>
<td>CLPS 1660</td>
<td>Learning Compositional Language</td>
</tr>
<tr>
<td>CLPS 1800</td>
<td>Language Processing</td>
</tr>
<tr>
<td>CLPS 1850</td>
<td>Language Processing in Humans and Machines</td>
</tr>
<tr>
<td>CLPS 1890</td>
<td>Laboratory in Psycholinguistics</td>
</tr>
<tr>
<td><strong>Three electives specifically in the focus area, such as:</strong></td>
<td>3</td>
</tr>
<tr>
<td>CLPS 0800</td>
<td>Language and the Mind</td>
</tr>
<tr>
<td>CLPS 1650</td>
<td>Child Language Acquisition</td>
</tr>
<tr>
<td>CLPS 1660</td>
<td>Learning Compositional Language</td>
</tr>
<tr>
<td>CLPS 1800</td>
<td>Language Processing</td>
</tr>
<tr>
<td>CLPS 1850</td>
<td>Language Processing in Humans and Machines</td>
</tr>
<tr>
<td>CLPS 1890</td>
<td>Laboratory in Psycholinguistics</td>
</tr>
<tr>
<td><strong>Four non-linguistic focus area electives, such as:</strong></td>
<td>4</td>
</tr>
<tr>
<td>CLPS 0200</td>
<td>Human Cognition</td>
</tr>
<tr>
<td>CLPS 0400</td>
<td>Cognitive Neuroscience</td>
</tr>
<tr>
<td>CLPS 0610</td>
<td>Children's Thinking: The Nature of Cognitive Development</td>
</tr>
<tr>
<td>CLPS 0900</td>
<td>Statistical Methods</td>
</tr>
<tr>
<td>CLPS 1420</td>
<td>Cognitive Neuropsychology</td>
</tr>
<tr>
<td>CLPS 1492</td>
<td>Computational Cognitive Neuroscience</td>
</tr>
<tr>
<td>CLPS 1610</td>
<td>Cognitive Development</td>
</tr>
<tr>
<td>CLPS 1620</td>
<td>Developmental Cognitive Neuroscience</td>
</tr>
<tr>
<td>CLPS 1900</td>
<td>Research Methods And Design</td>
</tr>
<tr>
<td>NEUR 0680</td>
<td>Introduction to Computational Neuroscience</td>
</tr>
<tr>
<td>NEUR 1030</td>
<td>Neural Systems</td>
</tr>
<tr>
<td>PHIL 1800</td>
<td>Philosophy of Mind</td>
</tr>
<tr>
<td><strong>Two additional courses outside the main focus that satisfy the Linguistics AB requirement, such as:</strong></td>
<td>2</td>
</tr>
<tr>
<td>CLPS 1390</td>
<td>Linguistic Field Methods</td>
</tr>
<tr>
<td>CLPS 1331</td>
<td>Linguistic Variation and Universals</td>
</tr>
<tr>
<td>ANTH 1800</td>
<td>Sociolinguistics, Discourse and Dialogue</td>
</tr>
<tr>
<td>SLAV 1300</td>
<td>Sociolinguistics (with Case Studies on the Former USSR and Eastern Europe)</td>
</tr>
<tr>
<td><strong>Or many others (see Linguistics AB for examples)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>One additional class in linguistics (related or unrelated to the focus area), such as:</strong></td>
<td>1</td>
</tr>
<tr>
<td>CLPS 1342</td>
<td>Compositional Semantics</td>
</tr>
<tr>
<td>CLPS 1380</td>
<td>Introduction to Corpus Linguistics</td>
</tr>
<tr>
<td><strong>One independent study / capstone requirement</strong></td>
<td>1</td>
</tr>
<tr>
<td>CLPS 1970</td>
<td>Directed Reading in Cognitive, Linguistic and Psychological Sciences</td>
</tr>
<tr>
<td>CLPS 1980</td>
<td>Directed Research in Cognitive, Linguistic and Psychological Sciences</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td>16</td>
</tr>
</tbody>
</table>

**Meaning and Logic Pathway**

**Gateway course** | 1 |
| CLPS 0300 | Introduction to Linguistics |
| **At least one course in phonetics / phonology, such as:** | 1 |
| CLPS 1310 | Phonology |
| **At least one course in syntax, such as:** | 1 |
| CLPS 1330 | Introduction to Syntax |
| CLPS 131    | Linguistic Variation and Universals |
| CLPS 1341   | Lexical Semantics |
| CLPS 1342   | Compositional Semantics |
| CLPS 1370   | Pragmatics |
| **At least one course in psycholinguistics, such as:** | 1 |
| CLPS 0800   | Language and the Mind |
| CLPS 1650   | Child Language Acquisition |
| CLPS 1660   | Learning Compositional Language |
| CLPS 1800   | Language Processing |
| CLPS 1850   | Language Processing in Humans and Machines |
| CLPS 1890   | Laboratory in Psycholinguistics |
| **Three electives specifically in the focus area, such as:** | 3 |
| CLPS 0800   | Language and the Mind |
| CLPS 1650   | Child Language Acquisition |
| CLPS 1660   | Learning Compositional Language |
| CLPS 1800   | Language Processing |
| CLPS 1850   | Language Processing in Humans and Machines |
| CLPS 1890   | Laboratory in Psycholinguistics |
| **Four non-linguistic focus area electives, such as:** | 4 |
| MATH 0750   | Introduction to Higher Mathematics |
| CSCI 0220   | Introduction to Discrete Structures and Probability |
| PHIL 0990T  | Paradox and Infinity |
| PHIL 1360   | Twentieth-Century Analytic Philosophy |
| PHIL 1630   | Mathematical Logic |
| PHIL 1635   | Advanced Deductive Logic |
| PHIL 1680   | Theories of Truth |
| CLPS 0200   | Human Cognition |
| CLPS 0610   | Children's Thinking: The Nature of Cognitive Development |
| CLPS 0700   | Social Psychology |
| **Two additional courses outside the main focus that satisfy the Linguistics AB requirement, such as:** | 2 |
| CLPS 1390   | Linguistic Field Methods |
| CLPS 1331   | Linguistic Variation and Universals |
| ANTH 1800   | Sociolinguistics, Discourse and Dialogue |
| SLAV 1300   | Sociolinguistics (with Case Studies on the Former USSR and Eastern Europe) |
| **Or many others (see Linguistics AB for examples)** | |
| **One additional class in linguistics (related or unrelated to the focus area), such as:** | 1 |
| CLPS 1361   | Information Theory in Language |
| CLPS 1800   | Language Processing |
| **One independent study / capstone requirement** | 1 |
| CLPS 1970   | Directed Reading in Cognitive, Linguistic and Psychological Sciences |
| CLPS 1980   | Directed Research in Cognitive, Linguistic and Psychological Sciences |
| **Total Credits** | 16 |

**Honors (17 courses)**

The Honors program requires one additional elective, which will typically be a second CLPS 1980 Directed Research course during the senior year (thus leading to a full year of Directed Reading or Directed Research). Admission to the honors program requires a majority of A grades in the concentration. The student’s work will culminate in an Honors’ thesis, which can be found at https://www.brown.edu/academics/cognitive-linguistic-psychological-sciences/honors (https://www.brown.edu/).
students should obtain information from the office of the Literary Arts Department.

Honors in Literary Arts Production: Course requirements are the same as those for the regular concentration (four workshops, six literature-reading courses), with the following changes and additions: honors candidates must include two 1000-level workshops, production courses or related independent studies among their courses; and complete a production capstone project. Students in their seventh semester who are enrolled in or have completed at least one 1000-level workshop, production course or independent study, may submit honors applications to the Literary Arts Department from the first day of the fall semester to 25 September; and from 1 through 25 February in the spring. Interested students should obtain information from the Literary Arts Department.

Mathematics

Mathematics is a grouping of sciences, including geometry, algebra, and calculus, that study quantity, structure, space, and change. Mathematics concentrators at Brown can explore these concepts through the department's broad course offerings and flexible concentration requirements. The concentration leads to either the Bachelor of Arts or Bachelor of Science degree (the latter is strongly recommended for students interested in pursuing graduate study in mathematics or related fields). Concentrators begin their learning with multivariable calculus, linear algebra, and abstract algebra. Beyond these prerequisites, students take a variety of advanced topics on the 1000 level based on their interests. After sufficient preparation and with permission of the instructor, students may also take courses on the 2000 level. Students also have the option of completing a thesis project.

Concentrators in mathematics should complete the prerequisites by the end of their sophomore year. It is strongly recommended that students take MATH 1010 before taking MATH 1130.

Standard program for the A.B. degree

**Prerequisites:**
- Multivariable calculus and linear algebra (choose one of the following sequences): 2
  - MATH 0180 and MATH 0520
  - MATH 0180 and MATH 0540
  - MATH 0200 and MATH 0520
  - MATH 0200 and MATH 0540
- Or the equivalent

**Program:**
- MATH 1530 Abstract Algebra 1
- Five other 1000- or 2000-level Mathematics courses. The year-long sequence 0750/0760 may be substituted for one of these course credits.

**Total Credits**

8

Standard program for the Sc.B. degree

**Prerequisites:**
- Multivariable calculus and linear algebra (choose one of the following sequences): 2
  - MATH 0180 and MATH 0520
  - MATH 0180 and MATH 0540
  - MATH 0200 and MATH 0520
  - MATH 0200 and MATH 0540
- MATH 0350 and MATH 0540 or the equivalent

**Program:**
- MATH 1530 Abstract Algebra 1
- Five other 1000- or 2000-level Mathematics courses. The year-long sequence 0750/0760 may be substituted for one of these course credits.

**Total Credits**

8

For up-to-date course information please visit Courses@Brown.edu (https://cabs.brown.edu).
### Honors

Honors degrees may be recommended for students who have exhibited high achievement in mathematics. Candidates must complete at least eight mathematics courses at the 1000 or 2000 level with sufficiently good grades and must write an honors thesis under the guidance of a faculty member. The honors thesis is usually written while the candidate is enrolled in MATH 1970. The candidate should consult with the concentration advisor for the precise grade requirements.

Those interested in graduate study in mathematics are encouraged to take:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 1130</td>
<td>2</td>
</tr>
<tr>
<td>MATH 1140</td>
<td></td>
</tr>
<tr>
<td>MATH 1260</td>
<td>2</td>
</tr>
<tr>
<td>MATH 1410</td>
<td>2</td>
</tr>
<tr>
<td>MATH 1540</td>
<td>1</td>
</tr>
</tbody>
</table>

### Mathematics-Computer Science

Students may opt to pursue an interdisciplinary Bachelor of Science degree in Math-Computer Science, a concentration administered cooperatively between the mathematics and computer science departments. Course requirements include math- and systems-oriented computer science courses, as well as computational courses in applied math. Students must identify a series of electives that cohere around a common theme. As with other concentrations offered by the Computer Science department, students have the option to pursue the professional track (http://www.cs.brown.edu/undergrad/concentrations/professional.track.html) of the ScB program in Mathematics-Computer Science.

### Requirements for the Standard Track of the Sc.B. degree.

#### Prerequisites

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Three semesters of Calculus to the level of MATH 0180, 0200, or MATH 0350</td>
<td>3</td>
</tr>
<tr>
<td>MATH 0520</td>
<td>1</td>
</tr>
<tr>
<td>or MATH 0540</td>
<td></td>
</tr>
<tr>
<td>or CSCI 0530</td>
<td></td>
</tr>
<tr>
<td>Linear Algebra</td>
<td></td>
</tr>
<tr>
<td>Linear Algebra With Theory</td>
<td></td>
</tr>
<tr>
<td>Coding the Matrix: An Introduction to Linear Algebra for Computer Science</td>
<td></td>
</tr>
</tbody>
</table>

#### Core Courses

<table>
<thead>
<tr>
<th>Course</th>
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</tr>
</thead>
<tbody>
<tr>
<td>MATH 1530</td>
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<tr>
<td>Select one of the following series:</td>
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</table>

**Series A**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCI 0150 &amp; CSCI 0200</td>
<td>2</td>
</tr>
<tr>
<td>Introduction to Object-Oriented Programming and Computer Science and Program Design with Data Structures and Algorithms</td>
<td></td>
</tr>
</tbody>
</table>

**Series B**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCI 0170 &amp; CSCI 0200</td>
<td>2</td>
</tr>
<tr>
<td>Computer Science: An Integrated Introduction and Program Design with Data Structures and Algorithms</td>
<td></td>
</tr>
</tbody>
</table>

### Total Credits

19

1. Students wishing to go directly from CSCI 0111 to CSCI 0200 (without CSCI 0112) will need to successfully complete additional exercises to receive an instructor override code for CSCI 0200. In 2020-21, these exercises will be offered within CSCI 0111. Students from prior CSCI 0111 offerings should contact the current CSCI0111 instructor to arrange to do this work.

2. These must be CSCI courses at the 1000-level or higher. Two of these courses and the intermediate courses must satisfy one of the CS pathways (https://cs.brown.edu/degrees/undergrad/concentrating-in-cs/concentration-requirements-2020/pathways-for-undergraduate-and-masters-students/). At most one arts, humanities, or social science CS course can be used for concentration credit (currently CSCI 1250, 1280, 1360, 1370, 1800, 1805, 1870, 1952B, 1952X, 2002, 2952S).

3. Note: CSCI 1010 may be used either as a math-oriented intermediate course or as an advanced course. CSCI 1010 was formerly known as CSCI 510: they are the same course and hence only one may be taken for credit. CSCI 1450 was formerly known as CSCI 450: they are the same course and hence only one may be taken for credit. Applied Math 1650 or 1655 may be used in place of CSCI 1450 in CS pathway requirements (https://cs.brown.edu/degrees/undergrad/concentrating-in-cs/concentration-requirements-2020/pathways-for-undergraduate-and-masters-students/). However, concentration credit will be given for only one of Applied Math 1650, 1655, and CSCI 1450.

4. These must be approved by a concentration advisor.

5. A one-semester course, taken in the student's last undergraduate year, in which the student (or group of students) use a significant portion of their undergraduate education, broadly interpreted, in studying some current topic in depth, to produce a culminating artifact such as a paper or software project. The title and abstract of the artifact, along with the student's and faculty-sponsor's names, will be placed in the CS website. The inclusion of a relevant image or system diagram is strongly encouraged. The complete text of the best artifacts of each class will be featured on the CS website. A senior thesis, which involves two semesters of work, may count as a capstone.

Course-based capstones are currently only available through CS. Approved capstone courses and instructions may be found here: https://
Mathematics-Economics

The Mathematics Economics concentration is designed to give a background in economic theory plus the mathematical tools needed to analyze and develop additional theoretical constructions. The emphasis is on the abstract theory itself. Students may choose either the standard or the professional track, both award a Bachelor of Arts degree. If you are interested in declaring a concentration in Mathematics Economics, please refer to this page (https://economics.brown.edu/academics/undergraduate/concentrations/declaring/) for more information regarding the process.

Standard Mathematics-Economics Concentration

**Economics**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>ECON 1130</td>
<td>Intermediate Microeconomics (Mathematical)</td>
<td>1</td>
</tr>
<tr>
<td>ECON 1210</td>
<td>Intermediate Macroeconomics</td>
<td>1</td>
</tr>
<tr>
<td>ECON 1630</td>
<td>Mathematical Econometrics I</td>
<td>1</td>
</tr>
<tr>
<td>ECON 1170</td>
<td>Welfare Economics and Social Choice Theory</td>
<td>2</td>
</tr>
<tr>
<td>ECON 1225</td>
<td>Advanced Macroeconomics: Monetary, Fiscal, and Stabilization Policies</td>
<td>2</td>
</tr>
<tr>
<td>ECON 1255</td>
<td>Unemployment: Models and Policies</td>
<td>1</td>
</tr>
<tr>
<td>ECON 1470</td>
<td>Bargaining Theory and Applications</td>
<td>1</td>
</tr>
<tr>
<td>ECON 1490</td>
<td>Designing Internet Marketplaces</td>
<td>1</td>
</tr>
<tr>
<td>ECON 1545</td>
<td>Topics in Macroeconomics, Development and International Economics</td>
<td>1</td>
</tr>
<tr>
<td>ECON 1640</td>
<td>Mathematical Econometrics II</td>
<td>1</td>
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<tr>
<td>ECON 1660</td>
<td>Big Data</td>
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</tr>
<tr>
<td>ECON 1670</td>
<td>Advanced Topics in Econometrics</td>
<td>1</td>
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</table>

**Mathematics**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>MATH 1010</td>
<td>Analysis: Functions of One Variable</td>
<td>1</td>
</tr>
<tr>
<td>MATH 1100</td>
<td>Functions of Several Variables</td>
<td>1</td>
</tr>
<tr>
<td>MATH 1110</td>
<td>Ordinary Differential Equations</td>
<td>1</td>
</tr>
<tr>
<td>MATH 1120</td>
<td>Partial Differential Equations</td>
<td>1</td>
</tr>
</tbody>
</table>

Total Credits: 14

1 Or ECON 1110 with permission. For students matriculating at Brown in Fall 2021 or later, note that if ECON 1110 is used, then one additional course from the mathematical-economics group will be required.

2 No course may be "double-counted" to satisfy both the mathematical-economics and data methods requirement.

3 Students may apply, at most, one Economics course whose number is in the range of 1000 to 1099 toward the concentration. Note that ECON 1620, ECON 1960, and ECON 1970 (independent study) cannot be counted toward the concentration.

For up-to-date course information please visit Courses@Brown.edu (https://cabs.brown.edu).
be used for concentration credit. However, ECON 1620 and ECON 1960 can be used for university credit and up to two 1970s may be used for university credit.

4 MATH 1130 is a prerequisite for MATH 1140.

**Honors:**

Students who meet stated requirements are eligible to write an honors thesis in their senior year. Students should consult the listed honors requirements of whichever of the two departments their primary thesis advisor belongs to, at the respective departments' websites.

**Professional Track:**

The requirements for the professional track include all those of the standard track, as well as the following:

Students must complete full-time professional experiences doing work that is related to their concentration programs, totalling 26 months, whereby each internship must be at least one month in duration in cases where students choose to do more than one internship experience. Such work is normally done at a company, but may also be at a university under the supervision of a faculty member. Internships that take place between the end of the fall and the start of the spring semesters cannot be used to fulfill this requirement.

On completion of each professional experience, the student must write and upload to ASK a reflective essay about the experience addressing the following prompts, to be approved by the student's concentration advisor:

- Which courses were put to use in your summer's work? Which topics, in particular, were important?
- In retrospect, which courses should you have taken before embarking on your summer experience? What are the topics from these courses that would have helped you over the summer if you had been more familiar with them?
- Are there topics you should have been familiar with in preparation for your summer experience, but are not taught at Brown? What are these topics?
- What did you learn from the experience that probably could not have been picked up from course work?
- Is the sort of work you did over the summer something you would like to continue doing once you graduate? Explain.
- Would you recommend your summer experience to other Brown students? Explain.

**Medieval Cultures**

The program in Medieval Studies offers a concentration in Medieval Cultures with two tracks with distinct foci: one in Medieval Cultures and the other in Late Antique Cultures. **Medieval Cultures** focuses on the 6th-15th centuries, combining interdisciplinary perspectives with in-depth study of one or two related disciplines.

**Late Antique Cultures** deals with the 3rd-9th centuries, when ancient cultural forms were still in place but medieval cultures were beginning to take shape simultaneously. The first undergraduate degree of its kind in this country, Late Antique Cultures studies the changing relation of cultural practices, social patterns, political and economics forms, and artistic and literary traditions in this important transition period.

A traditional area of study in Medieval Cultures is Western Europe in the High Middle Ages, but students are encouraged to work comparatively in Byzantine, Islamic, Judaic and/or Slavic cultures in the middle ages.

**Medieval Cultures Track**

It is recommended that prospective concentrators take the introductory course, Medieval Perspectives, during their freshman or sophomore year.

**Requirements**

Ten courses approved by the Program in Medieval Studies, including two courses in medieval history and one 1000- or 2000-level course that uses primary texts in a medieval language other than Middle English. Interested students are invited to discuss their plans with an appropriate faculty member of the Program. A concentration proposal should be prepared in consultation with the faculty advisor and submitted to the Program Chair for approval.

Under the supervision of the director of the program, students may choose courses from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>JUDS 0650M</td>
<td>Difficult Relations? Judaism and Christianity from the Middle Ages until the Present</td>
</tr>
<tr>
<td>RELS 0015</td>
<td>Sacred Stories</td>
</tr>
<tr>
<td>ENGL 0100D</td>
<td>Matters of Romance</td>
</tr>
<tr>
<td>RELS 0110</td>
<td>Christians</td>
</tr>
<tr>
<td>RELS 0150</td>
<td>Islam Unveiled</td>
</tr>
<tr>
<td>HIST 0150B</td>
<td>The Philosophers' Stone: Alchemy From Antiquity to Harry Potter</td>
</tr>
<tr>
<td>ENGL 0150C</td>
<td>The Medieval King Arthur</td>
</tr>
<tr>
<td>RELS 0290D</td>
<td>Islamic Sexualities</td>
</tr>
<tr>
<td>ENGL 0300F</td>
<td>Beowulf to Aphra Behn: The Earliest British Literatures</td>
</tr>
<tr>
<td>ENGL 0310F</td>
<td>Prose Sagas of the Medieval North</td>
</tr>
<tr>
<td>HIAA 0321</td>
<td>Toward a Global Late Antiquity: 200-800 CE</td>
</tr>
<tr>
<td>MDVL 0360</td>
<td>Medieval Bodies: Medieval Perspectives</td>
</tr>
<tr>
<td>RELS 0410</td>
<td>Ancient Christianity: Jesus to Muhammad</td>
</tr>
<tr>
<td>RELS 0420</td>
<td>Sacred Bodies</td>
</tr>
<tr>
<td>HIAA 0460</td>
<td>Muslims, Jews and Christians in Medieval Iberia</td>
</tr>
<tr>
<td>COLT 0510K</td>
<td>The 1001 Nights</td>
</tr>
<tr>
<td>HIST 0521A</td>
<td>Christianity in Conflict in the Medieval Mediterranean</td>
</tr>
<tr>
<td>HIST 0521M</td>
<td>The Holy Grail and the Historian's Quest for the Truth</td>
</tr>
<tr>
<td>CLAS 0600</td>
<td>The Literary Worlds of Late Antiquity</td>
</tr>
<tr>
<td>MDVL 0620</td>
<td>Muslims, Jews, and Christians in Medieval Iberia</td>
</tr>
<tr>
<td>RELS 0640</td>
<td>Dying To Be With God: Jihad, Past and Present</td>
</tr>
<tr>
<td>HIST 0621B</td>
<td>The Search for King Arthur</td>
</tr>
<tr>
<td>CLAS 0660</td>
<td>The World of Byzantium</td>
</tr>
<tr>
<td>JUDS 0681</td>
<td>Great Jewish Books</td>
</tr>
<tr>
<td>HISP 0750E</td>
<td>Topics in Hispanic Culture and Civilization</td>
</tr>
<tr>
<td>MUSC 0910</td>
<td>Medieval and Renaissance Music</td>
</tr>
<tr>
<td>ITAL 1010</td>
<td>Dante in English Translation: Dante's World and the Invention of Modernity</td>
</tr>
<tr>
<td>LATN 1110F</td>
<td>Fortunatus</td>
</tr>
<tr>
<td>LATN 1110H</td>
<td>Literature at the Court of Charlemagne</td>
</tr>
<tr>
<td>LATN 1110L</td>
<td>Medieval Latin Lyric</td>
</tr>
<tr>
<td>GREK 1110Q</td>
<td>Greek Erotic Literature: From Plato to the Medieval Romances</td>
</tr>
<tr>
<td>GREK 1110T</td>
<td>Rhetors and Philosophers: Intellectual Thought and Sophistic Style in the Ancient World</td>
</tr>
<tr>
<td>LATN 1120C</td>
<td>Survey of Late and Medieval Latin</td>
</tr>
<tr>
<td>LATN 1120D</td>
<td>Alcuin</td>
</tr>
<tr>
<td>CLAS 1120G</td>
<td>The Idea of Self</td>
</tr>
<tr>
<td>CLAS 1120V</td>
<td>The Age of Constantine: The Roman Empire in Transition</td>
</tr>
<tr>
<td>HIST 1205</td>
<td>The Long Fall of the Roman Empire</td>
</tr>
<tr>
<td>HIST 1210A</td>
<td>The Viking Age</td>
</tr>
<tr>
<td>HIST 1211</td>
<td>Crusaders and Cathedrals, Deviants and Domination: Europe in the High Middle Ages</td>
</tr>
<tr>
<td>HIST 1260D</td>
<td>Living Together: Muslims, Christians, and Jews in Medieval Iberia</td>
</tr>
</tbody>
</table>

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
HIST 1280  Death from Medieval Relics to Forensic Science
COLT 1310E  A Classical Islamic Education: Readings in Arabic Literature
ENGL 1310T  Chaucer
ENGL 1310V  Chaucer: The Canterbury Tales
ENGL 1311E  History of the English Language
ENGL 1311H  Sagas Without Borders: Multilingual Literatures of Early England
ENGL 1311L  From Mead-Hall to Mordor: The Celtic and Germanic Roots of Tolkien’s Fiction
RELS 1325C  The Virgin Mary in Christian Tradition
HISP 1330T  El amor en espa?ol
ENGL 1360F  Quest, Vision, Diaspora: Medieval Journey Narratives
ENGL 1360H  Introduction to the Old English Language
ENGL 1360J  Middle English Literature
ENGL 1360U  Europe in the Vernacular
ENGL 1361D  Women’s Voices in Medieval Literature
ENGL 1361K  Seminar in the Old English Language II
HIST 1440  The Ottomans: Faith, Law, Empire
HIAA 1440B  The Architecture of Solitude: The Medieval Monastery
RELS 1520  Pilgrimage and Sacred Travel in the Lands of Islam
RELS 1530A  Methods and Problems in Islamic Studies
RELS 1550D  Medieval Islamic Sectarianism
HIAA 1560A  Italy and the Mediterranean
ASYR 1600  Astronomy Before the Telescope
JUDS 1630  The Talmud
CLAS 1750L  Erotic Desire in the Premodern Mediterranean
COLT 1813P  Captive Imaginations: Writing Prison in the Middle Ages
HIST 1835A  Unearthing the Body: History, Archaeology, and Biology at the End of Antiquity
ENGL 1900Y  Medieval Manuscript Studies: Paleography, Codicology, and Interpretation
HIST 1963L  Barbarians, Byzantines, and Berbers: Early Medieval North Africa, AD 300-1050
HIST 1963M  Charlemagne: Conquest, Empire, and the Making of the Middle Ages
HIST 1963Q  Sex, Power, and God: A Medieval Perspective
MDVL 1970  Independent Study
HIST 1979H  Prostitutes, Mothers, + Midwives: Women in Pre-modern Europe and North America
MDVL 1990  Honors Thesis
HISP 2030D  Fifteenth-Century Sentimental Romances and Celestina
GREK 2110F  Greek Palaeography and Premodern Book Cultures
ENGL 2360Q  Manuscript, Image, and the Middle English Text
HIST 2970A  New Perspectives on Medieval History

<table>
<thead>
<tr>
<th>Honors</th>
</tr>
</thead>
<tbody>
<tr>
<td>This is awarded to students who present a meritorious honors thesis in addition to completing the required courses of the concentration. The thesis permits the student to synthesize various disciplines or interests, or to pursue a new interest in greater depth. To be eligible for Honors, candidates must complete a minimum of six approved courses in Medieval Studies by the end of their third year with more grades of A than B. Students should apply for admission to Honors and should meet with their faculty advisor(s) no later than spring of the junior year to plan the thesis project. Accepted candidates write the thesis in a two-semester course sequence under the supervision of a director and second reader drawn from the Medieval Studies faculty. Interested students should contact the concentration advisor for further details or consultation (863-1994).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Late Antique Cultures Track</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Requirements:</strong></td>
</tr>
<tr>
<td>One course in Roman history:</td>
</tr>
<tr>
<td>CLAS 1310 Roman History I: The Rise and Fall of an Imperial Republic</td>
</tr>
<tr>
<td>CLAS 1320 Roman History II: The Roman Empire and Its Impact (recommended)</td>
</tr>
<tr>
<td>One course in medieval history:</td>
</tr>
<tr>
<td>One course at the advanced level (numbered at least 1000) in one approved language:</td>
</tr>
<tr>
<td>Six other courses drawn from appropriate offerings and with the approval of the concentration advisor:</td>
</tr>
<tr>
<td>These courses should support a concentrational area of special interest.</td>
</tr>
<tr>
<td><strong>Total Credits:</strong></td>
</tr>
</tbody>
</table>

1 The language in most cases will be Latin, but students will present different competencies and interests; other languages, such as Greek, Hebrew, or one of the medieval vernaculars can be substituted for Latin, with the approval of the concentration advisor and in conjunction with a clearly articulated program of study.

Under the supervision of the director of the program, students may choose courses from the following:

| CLAS 0660  | The World of Byzantium |
| CLAS 1120G | The Idea of Self |
| CLAS 1120V | The Age of Constantine: The Roman Empire in Transition |
| CLAS 1750L | Erotic Desire in the Premodern Mediterranean |
| COLT 0510K | The 1001 Nights |
| COLT 1813P | Captive Imaginations: Writing Prison in the Middle Ages |
| ENGL 0100D | Matters of Romance |
| ENGL 0150C | The Medieval King Arthur |
| ENGL 0300F | Beowulf to Aphra Behn: The Earliest British Literatures |
| ENGL 0310F | Prose Sagas of the Medieval North |
| ENGL 1310T | Chaucer |
| ENGL 1310V | Chaucer: The Canterbury Tales |
| ENGL 1311H | Sagas Without Borders: Multilingual Literatures of Early England |
| ENGL 1311L | From Mead-Hall to Mordor: The Celtic and Germanic Roots of Tolkien’s Fiction |
| ENGL 1360F | Quest, Vision, Diaspora: Medieval Journey Narratives |
| ENGL 1360H | Introduction to the Old English Language |
| ENGL 1360J | Middle English Literature |
| ENGL 1360U | Europe in the Vernacular |
| ENGL 1361D | Women’s Voices in Medieval Literature |
| ENGL 1900Y | Medieval Manuscript Studies: Paleography, Codicology, and Interpretation |
| ENGL 2360Q | Manuscript, Image, and the Middle English Text |

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Honors
When in Late Antique Cultures, these are awarded to students who present a meritorious honors thesis in addition to completing the required courses of the concentration. Application for admission to honors should be made in the spring of the junior year, by which time honors candidates must have completed a minimum of six approved courses in Late Antique Studies. Accepted candidates write the thesis in a two-semester course sequence (MDVL 1990) under the supervision of a director and a second reader to be determined in consultation with the advisor.

Middle East Studies
The concentration in Middle East Studies (MES) seeks to build a strong, interdisciplinary understanding of historical and contemporary issues within the Middle East, broadly defined. Requirements are intentionally flexible to accommodate the focused interests of students in understanding the diverse dynamics, histories, and societies of this region. A variety of courses from departments across the University, addressing subjects from antiquity to the present day, expose students to methods and materials of different disciplines and help them build a framework for understanding the Middle East in historical and contemporary context. Concentration requirements are structured around four major cornerstones: language, foundational knowledge and methods, multidisciplinary area studies, and research.

A semester-by-semester roster of courses eligible for MES elective credit can be found on the Center for Middle East Studies (http://middleeastbrown.org/) website.

Standard Program for the AB Degree
Foundational Courses: All MES concentrators are expected to take both of the following foundational courses. It is recommended that students take the first foundational course (MES 0100: The Middle East: Cultures and Societies—offered every spring) before taking the second foundational course (MES 1968: Approaches to the Middle East—offered every fall). Foundational course requirements cannot be fulfilled via independent study, study abroad, or transfer credits.

- **MES 0100** The Middle East: Cultures & Societies
- **MES 1968** Approaches to the Middle East

Electives: Students must take at least five elective courses chosen in consultation with the Director of Undergraduate Studies (DUS) from among the courses listed by MES as approved electives on its website (https://watson.brown.edu/ cmes/academics/undergraduate-concentration/course-listing/all-courses). Students may apply up to two Middle Eastern language credits (beyond those that fulfill the language requirement: see below) to the MES electives requirement. To allow for exposure of different disciplinary approaches to the Middle East, students must take at least one course in the humanities (offered within the departments of Archaeology and the Ancient World, Classics, Comparative Literature, History of Art and Architecture, Modern Culture and Media, Philosophy, or Religious Studies) and at least one course in the social sciences (offered within the departments of Anthropology, History, International Relations, Political Science, Sociology, or Urban Studies). Some examples of recent courses that would fulfill these requirements include:

- **Humanities**
  - CLAS 0660 The World of Byzantium
  - HIAA 0041 The Architectures of Islam
  - RELS 0088 Judaism, Christianity, and Islam

- **Social Sciences**
  - ANTH 1150 Middle East in Anthropological Perspective
Capstones offer students the opportunity to integrate and build upon their experiences within the concentration, while demonstrating intellectual creativity, research skills, and effective communication, and should serve in some sense as a culmination of or reflection on what one has gained in the concentration. All students are expected to present their capstone research in the final semester before graduation. Presentations of honors theses will be approximately twenty minutes long, and those of non-honors capstone projects will be approximately ten minutes long, both followed by a question-and-answer session. Capstone projects must fulfill the following requirements:

- Must be taken in the final two semesters before graduation (excluding summer and winter sessions)
- Must incorporate research in a Middle Eastern language.
- Must be approved or overseen by a MES or MES-affiliated faculty member.
- Must be presented in the final semester before graduation.

Capstones can take one of three forms:

a. A Middle East–focused research paper of at least 20 pages for an existing concentration-eligible (MES-coded or X-Listed) course, undertaken with the permission and supervision of the instructor.

b. An independent study or project (artistic, research, or otherwise), approved by the DUS and supervised by at least one faculty member for at least one semester under the MES 1970 - Independent Study designation.

c. A two-semester honors thesis, completed under the supervision of a primary reader (who is an MES or MES-affiliated faculty member) and a secondary reader (who can be from other Brown departments and programs), and in coordination with the DUS.

The following Morse courses may be used to fulfill this requirement: *

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST 0244</td>
<td>Understanding the Middle East: 1800s to the Present</td>
</tr>
<tr>
<td>POLS 1822I</td>
<td>Geopolitics of Oil and Energy</td>
</tr>
<tr>
<td>SOC 1871L</td>
<td>Migration, Displacement and Emerging Community Experiences: Contemporary Turkey</td>
</tr>
<tr>
<td>URBN 1870K</td>
<td>Jerusalem Divided: Politics and Cultural Heritage</td>
</tr>
</tbody>
</table>

Language Semesters: Middle East Studies concentrators are expected to achieve basic competence in at least one of the modern Middle Eastern languages, such as Arabic, Persian, Hebrew, or Turkish. This entails the completion of at least four semesters of Brown language coursework in one of these languages, or the equivalent through transfer or study abroad credits. Students who surpass the language requirement can apply up to two Middle Eastern language credits toward the MES elective requirements (see above). Students who have reached proficiency in a Middle Eastern language but have not received four credits at Brown (including transfer and/or study abroad credits) can fulfill this requirement: *

- Through advanced reading and writing courses in that language. Recent examples include:
  - COLT 1310J: The Arab Renaissance
  - COLT 1431B: Modern Arabic Poetry
  - Through taking courses in a second Middle Eastern language.
  - Or through courses in a non–Middle Eastern language to be used in a senior capstone project (for example, Spanish for the study of Andalucia or French for the study of North Africa).

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Theory Based

Theory Based concentrators may choose to study a particular historical moment, a medium, or a mode of textual production, in combination with theoretical studies that examine the categories of cultural analysis: for example, the distinction between high and low culture. Examples of areas of interest include but are not limited to film, gender/sexuality, digital media, television, post-coloniality, the novel, modern thought, the modern arts, sound, and theories of ideology and subjectivity. Productive work in some modern medium or textual mode is encouraged for all concentrators. MCM’s approach to production recognizes the inextricable link between theory and practice, and the possibility of a fruitful complicity between them. Production, in the sense defined here, is a theoretically informed sphere or practice, one within which acknowledged forms of cultural creation are tested and extended in close complementarity with the analyses conducted elsewhere in MCM.

Theory Based consists of 11 courses.

Core courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCM 0150</td>
<td>Text/Media/Culture: Theories of Modern Culture and Media</td>
<td>1</td>
</tr>
</tbody>
</table>

Select two of the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCM 0220</td>
<td>Print Cultures: Textuality and the History of Books</td>
<td>2</td>
</tr>
<tr>
<td>MCM 0230</td>
<td>Digital Media</td>
<td></td>
</tr>
<tr>
<td>MCM 0240</td>
<td>Television Studies</td>
<td></td>
</tr>
<tr>
<td>MCM 0250</td>
<td>Visuality and Visual Theories</td>
<td></td>
</tr>
<tr>
<td>MCM 0260</td>
<td>Cinematic Coding and Narrativity</td>
<td></td>
</tr>
<tr>
<td>MCM 1110</td>
<td>The Theory of the Sign</td>
<td></td>
</tr>
</tbody>
</table>

Additional courses

One must be an upper level course from the MCM 1200 series

Two must be senior seminars from the MCM 1500 or MCM 1700 series

Two must be at any level in MCM above MCM 0260

Three additional courses. These courses must be in MCM or in related departments.

Total Credits: 11

1. No more than three courses from this list may count for concentration requirements.

2. The specific courses must be approved by an MCM concentration advisor as part of a coherent program of study.

Other Requirements:

1. Focus Area: Of the 11 courses required for the concentration, at least 3 courses must be in a focus area approved by a concentration advisor. These courses may be MCM courses, related courses, or a combination of the two, and they must represent a focus on some aspect of modern literature, theory, media, art or culture. Examples of possible focus areas are: mass/popular culture, gender/sexuality, language/representation/subjectivity, narrative, digital media, film, modern thought, television, the modern arts, the novel, colonialism and post-colonialism. This is not an exhaustive list. Production courses may be in the focus area but must be in addition to the minimum 3 courses.

2. Production: Work in production is encouraged but not required for Theory Based concentrators. Of the 11 courses required for concentration, as many as 3 may be in production. These may be production courses offered by MCM (film, video, digital media) or courses in creative writing, painting, photography, journalism, etc., provided they do not bring the total number of concentration courses taken outside MCM to more than 3.

Honors:

The honors program in MCM is designed for students who wish to integrate their skills in a special project. Students who qualify for Honors in the Theory Based track are eligible to apply to do an Honors project or thesis. Students should submit a letter of intent in their 6th semester, and a formal proposal by the first day of their 7th semester. Applications will be screened by the MCM Honors Committee. (Application forms are available in the MCM office.) If approved, a student must then register for MCM 1980 (taken in the 7th semester), a one-credit course which can count towards their Focus Area requirements, and MCM 1990 (taken in the 8th semester), a one-credit thesis course in which they complete the Honors project/thesis.

Practice Based

The Practice Based concentration combines production courses with the critical study of the cultural role of practice. It aims to engage students in the analysis of theories of production elaborated within philosophical, artistic, and technological traditions, while encouraging them to produce works that interrogate these traditions.

Practice Based consists of 11 courses:

Two core courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCM 0150</td>
<td>Text/Media/Culture: Theories of Modern Culture and Media</td>
<td>1</td>
</tr>
</tbody>
</table>

Select one MCM Introductory Practice course (MCM0700 series). Introductory practice courses in other disciplines may fulfill this requirement and should be selected in consultation with the concentration advisor. Possible disciplines include Literary Arts, Music, Theatre Arts and Performance Studies, Visual Art.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCM 0700A</td>
<td>Introduction to the Production Image</td>
<td>1</td>
</tr>
<tr>
<td>MCM 0710A</td>
<td>Introduction to Filmic Practice: Time and Form</td>
<td></td>
</tr>
<tr>
<td>MCM 0730A</td>
<td>Introduction to Video Production: Critical Strategies and Histories</td>
<td></td>
</tr>
<tr>
<td>MCM 0750A</td>
<td>Art in Digital Culture</td>
<td></td>
</tr>
</tbody>
</table>

One additional course from the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCM 0220</td>
<td>Print Cultures: Textuality and the History of Books</td>
<td>1</td>
</tr>
<tr>
<td>MCM 0230</td>
<td>Digital Media</td>
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<tr>
<td>MCM 0260</td>
<td>Cinematic Coding and Narrativity</td>
<td></td>
</tr>
<tr>
<td>MCM 1110</td>
<td>The Theory of the Sign</td>
<td></td>
</tr>
</tbody>
</table>

Three additional courses from the MCM 1200 or MCM 1500 series

Four practice courses selected in consultation with an advisor.

One Senior Seminar from the MCM 1700 series or other equivalent in production

Total Credits: 11

1. At least one must be from the MCM 1500 series.

2. Courses can be in any medium or combinatorial sequence of media from the following departments: Modern Culture and Media, Visual Art, Music, Literary Arts, Theatre Arts and Performance Studies, Computer Science, Engineering, supplemented by approved courses at Rhode Island School of Design and study abroad. This list is not exhaustive.

Honors:

The honors program in MCM is designed for students who wish to integrate their skills in a special project. Students who qualify for Honors in the Practice Based track are eligible to apply to do an Honors project or thesis. Students should submit a letter of intent in their 6th semester, and a formal proposal by the first day of their 7th semester. Applications will be screened by the MCM Honors Committee. (Application forms are available in the MCM office.) If approved, a student must then register for MCM 1980 (taken in the 7th semester), a one-credit course which can count towards their Focus Area requirements, and MCM 1990 (taken in the 8th semester), a one-credit thesis course in which they complete the Honors project/thesis.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Music

The concentration in Music integrates theory, history, ethnomusicology, technology, composition, and performance. Upon completing two foundational courses in theory and musicianship, concentrators have the flexibility to craft an intellectual pathway based on their particular interests and goals. The curriculum is supported by the Orwig Music Library, a state-of-the-art facility with holdings of over 40,000 books and scores and an equal number of sound and video recordings. Concentrators are encouraged to participate in one or more of the departmentally sponsored performing organizations: Chorus, Orchestra, Jazz Band, Wind Symphony, Chamber Music Performance, Electroacoustic Ensemble, Old-time String Band, Javanese Gamelan, or Ghanaian Drumming.

Concentrating in Music

If you choose Music as a Concentration*, you will be expected to achieve well-rounded training as a musician, regardless of the genre(s) in which you specialize. This training is manifested in the following general components:

**Fundamental skills** are important for any musician, and therefore at least two courses in music theory/musicianship courses are required of all students who wish to Concentrate. Students have the opportunity to enter into various theory courses according to them in music theory and experience.

**Historical and cultural knowledge** of music is another key area from which Concentrators are required to complete courses. These courses may be studies of Western or non-Western forms of music.

The creation of music** is also central to the Music Concentration. Students are encouraged to make music in a number of ways, including participation in ensembles, solo performance, composition, music production, and/or conducting.

Music faculty will be available to advise students on shaping the flexible parts of their Concentration and achieving their goal at Brown.

**Concentration Requirements:**

**Music Theory**

- Two courses in music theory, which may include one 400-level and one 500-level course, or two 500-level courses.

**MUSC 0400A** Introduction to Music Theory 1

**MUSC 0400B** Introduction to Popular Music Theory and Songwriting 1

**MUSC 0550** Theory of Tonal Music I 1

**MUSC 0560** Theory of Tonal Music II 1

**MUSC 0570** Jazz and Pop Harmony 1

**Music Scholarship, Production and Advanced Theory**

A minimum of four upper-level courses above 1000, must include:

- One upper-level course in musicology or ethnomusicology
- Any three upper-level courses, including graduate-level courses

**Additional Electives (according to student interest)**

Four additional elective courses, may include:

- Up to four half-credit courses in performance - AMP music instruction and/or Ensemble Participation (2 credits)
- Up to two courses outside of the department
- One music course below the 100 level

**Senior Project**

All music concentrators will choose a culminating experience for their senior year, either a capstone project or honors project. This may take the form of a performance, scholarly study, or original creative work. All students will have a primary advisor for their Senior Project. The work may be done independently of a course for credit, as an independent study, or within the framework of an existing course.

**Additional Notes**

All concentration substitutions and/or exceptions must be approved by the concentration advisor in consultation with the Director of Undergraduate Studies. A substitution or exception is not approved until specified in writing in the student’s concentration file in ASK. For up-to-date course information please visit Courses@Brown.edu (https://caeb.brown.edu).

Honors in Music (optional)

Faculty Rules stipulate “Brown University shall, at graduation, grant honors to students whose work in a field of concentration has demonstrated superior quality and culminated in an honors thesis of distinction.”

In order to apply for Honors in Music, at least half of the student’s coursework in Music must be As or Ss with Distinction. Please note that Brown’s transcripts do not indicate whether a student receives distinction in a S/NC course. (“S**” indicates that a course is mandatory S/NC.) This information must be obtained from the course instructor or the Registrar’s Office.

**Departmental Procedures:**

The Department welcomes a variety of projects leading to Honors in Music. Theses in Music may involve research in musicology, ethnomusicology, or theory; performance; composition, computer music, studio production, or instrument design; or combinations of the preceding categories. Creative and performance projects should be accompanied by pertinent research and/or documentation. Students are encouraged to meet with prospective honors committee members in the junior year to craft a thesis project that is appropriate in scope.

**NOTE:** the term HONORS COMMITTEE refers to a student’s honors thesis advisor and readers.

A student wishing to propose a project should proceed as follows:

1. An honors candidate must secure a faculty advisor and a second reader to serve as an honors committee during the third to last (typically sixth) semester. A declaration of intent (https://forms.gle/VtceLXIC6waDs5d09/)(Brown login required), consisting of a brief description of the proposed honors project and the names of the committee members, must be submitted to the Director of Undergraduate Studies by the last day of reading period in the third to last semester.

2. At the beginning of the penultimate (typically seventh) semester the student will submit a formal proposal describing the project to the honors committee for approval. Examples of recent honors proposals are available here (https://drive.google.com/open?id=1aAScAWyJHTKlpvJQoIlobPai0Fj1zKg) (Brown login required). The proposal must receive committee approval and be given to the department’s Academic Student Affairs Coordinator for distribution to the full faculty by the first day of the first full week of classes of the semester. The department faculty will vote on the proposals at the next regularly scheduled meeting. Decisions will be based on the student’s overall performance in music courses and on the quality of the proposal. The advisor will notify the student of the faculty’s decision.

3. It is expected that honors projects will normally take two semesters to complete. Students pursuing honors may choose to register for MUSC 1970 in the Fall and/or in the Spring. If not enrolled in an independent study, the student should meet with the advisor at the beginning of the semester to make a plan for regular meetings. The student is advised to meet with the secondary reader at least twice each semester before the thesis is formally submitted. By finals week of the penultimate semester, honors candidates must demonstrate substantial progress by submitting to the honors committee a partial draft of a paper or composition or, for performance projects, by playing a significant portion of the programmed repertoire. Failure to make sufficient progress may result in the termination of the honors project.

4. Last semester deadlines: Honors candidates must submit a complete draft to their honors committee by the first day of classes following the eighth week of the last semester. The committee will comment on the project and suggest revisions. Revisions must be completed, and the final project submitted to the honors committee by the first day of classes two weeks later. In the case of performance projects, this means that both the public performance and the scholarly component must have been completed by this date. In the case of research projects, all figures, notes, bibliography, and other critical apparatus must have been completed. Failure to make the deadline may result in the forfeiting of honors by the candidate, though the student may complete the project as a capstone project.
5. The honors committee will confer to determine their views on their projects. If the second reader is outside Music, the advisor may solicit a written recommendation about the merits of the project.

6. The advisor will deliver a copy of the completed thesis to the department's Academic Student Affairs Coordinator by the middle of the eleventh week of the last semester so that it may be made available for review by the full faculty.

7. During the twelfth week of the last semester, the advisor will report on the project at a meeting of the Department faculty for a vote. The advisor will notify the student of the faculty's decision.

8. Honors recipients will present their projects at a Department of Music Convocation held once annually during reading period in the Spring Semester.

### Neuroscience

Neuroscience is an interdisciplinary field that seeks to understand the functions and diseases of the nervous system. It draws on knowledge from neurobiology as well as elements of psychology and cognitive science, and mathematical and physical principles involved in modeling neural systems. Through the Neuroscience concentration, students develop foundational knowledge through courses in biology, chemistry, and mathematics as well as three core courses in neuroscience. They are also required to develop facility with research methodologies (through courses in statistics and laboratory methods) before moving into specific topics in the field (e.g., visual physiology, neurochemistry and behavior, and synaptic transmission and plasticity). Members of the Neuroscience faculty are affiliated with the Brown Institute for Brain Science, a multidisciplinary program that promotes collaborative research about the brain. Prospective concentrators should contact neuroundergrad@brown.edu in order to have a faculty advisor assigned to them.

### Standard program for the Sc.B. degree

The concentration combines a general science background with a number of specific courses devoted to the cellular, molecular, and integrative functions of the nervous system. The concentration allows considerable flexibility for students to tailor a program to their individual interests. Elective courses focus on a variety of areas including molecular mechanisms, cellular function, sensory and motor systems, neuropharmacology, learning and memory, animal behavior, cognitive function, bioengineering, theoretical neuroscience and computer modeling.

You may find this following form useful for mapping out your courses, be sure to use it before meeting with your concentration advisor for the first time: [link to advising contract PDF](http://bulletin.brown.edu/the-college/concentrations/neur/NeuroStudentAdvisorContract_Fillable.pdf)

The concentration in neuroscience leads to an Sc.B. degree. The following courses, or their equivalent, are required for the degree. Keep in mind that there are multiple ways to fulfill the various requirements and your concentration advisor can help you go through your options and optimize your course of study.

#### Background Courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Prerequisites</th>
<th>Notes</th>
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<tbody>
<tr>
<td>MATH 0900</td>
<td>Single Variable Calculus, Part I</td>
<td>(only needed as a prerequisite for MATH 10)</td>
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<tr>
<td>MATH 0100</td>
<td>Single Variable Calculus, Part II</td>
<td>(or equivalent)</td>
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<tr>
<td>PHYS 0030</td>
<td>Basic Physics A (Mechanics *see NOTE)</td>
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<tr>
<td>PHYS 0040</td>
<td>Basic Physics B (Electromagnetism)</td>
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<tr>
<td>BIOL 0200</td>
<td>The Foundation of Living Systems</td>
<td>(or placement test!)</td>
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<tr>
<td>CHEM 0330</td>
<td>Equilibrium, Rate, and Structure</td>
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<td>1</td>
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<tr>
<td>CHEM 0350</td>
<td>Organic Chemistry I</td>
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Note: ENGR 0030 may be used instead of PHYS 0030, but ENGR 0040 is NOT equivalent to PHYS 0040.

#### Core Concentration Courses:

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<thead>
<tr>
<th>Course</th>
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<th>Notes</th>
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<tbody>
<tr>
<td>NEUR 0010</td>
<td>The Brain: An Introduction to Neuroscience</td>
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#### One critical reading course

<table>
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<th>Course</th>
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<tr>
<td>NEUR 1020</td>
<td>Principles of Neurobiology</td>
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<tr>
<td>NEUR 1030</td>
<td>Neural Systems</td>
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#### One statistics course

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<tr>
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<td>Essentials of Data Analysis</td>
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<tr>
<td>PHP 1510</td>
<td>Principles of Biostatistics and Data Analysis</td>
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<tr>
<td>PHP 2510</td>
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</tr>
<tr>
<td>APMA 0650</td>
<td>Essential Statistics</td>
</tr>
<tr>
<td>APMA 1650</td>
<td>Statistical Inference I</td>
</tr>
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<td>CLPS 0900</td>
<td>Statistical Methods</td>
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<tr>
<td>SOCI 1100</td>
<td>Introductory Statistics for Social Research</td>
</tr>
<tr>
<td>BIOL 0495</td>
<td>Statistical Analysis of Biological Data</td>
</tr>
<tr>
<td>EDUC 1230</td>
<td>Applied Statistics for Ed Research and Policy Analysis</td>
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#### One lab methods course

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<th>Title</th>
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<tr>
<td>NEUR 0680</td>
<td>Introduction to Computational Neuroscience</td>
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<tr>
<td>NEUR 1440</td>
<td>Mechanisms and Meaning of Neural Dynamics</td>
</tr>
<tr>
<td>NEUR 1600</td>
<td>Experimental Neurobiology</td>
</tr>
<tr>
<td>NEUR 1630</td>
<td>Big Data Neuroscience Ideas Lab</td>
</tr>
<tr>
<td>NEUR 1650</td>
<td>Structure of the Nervous System</td>
</tr>
<tr>
<td>NEUR 1660</td>
<td>Neural Computation in Learning and Decision-Making</td>
</tr>
<tr>
<td>NEUR 1670</td>
<td>Neuropharmacology and Synaptic Transmission</td>
</tr>
<tr>
<td>NEUR 1680</td>
<td>Computational Neuroscience</td>
</tr>
<tr>
<td>NEUR 1970</td>
<td>Independent Study</td>
</tr>
</tbody>
</table>

*Two Semesters of NEUR 1970 can be used to fulfill one critical reading, lab, or elective requirement.

#### CLPS 1190

Techniques in Physiological Psychology

#### CLPS 1194

Sleep and Chronobiology Research

#### CLPS 1490

Functional Magnetic Resonance Imaging: Theory and Practice

#### CLPS 1491

Neural Modeling Laboratory

#### CLPS 1492

Computational Cognitive Neuroscience

#### BIOL 0800

Principles of Physiology

#### BIOL 1880

Comparative Biology of the Vertebrates

#### Four electives related to neuroscience

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Four courses that will enhance your understanding of the field of neuroscience. While electives need not be from the neuroscience department, the following list are common courses taught by Neuroscience and other departments that are often used as electives. We encourage students to explore the broader course catalog and consult with their concentration advisor to explore the full range of electives, rather than limiting themselves to this list:

NEUR 0680 Introduction to Computational Neuroscience
NEUR 1040 Introduction to Neurogenetics
NEUR 1440 Mechanisms and Meaning of Neural Dynamics
NEUR 1540 Neurobiology of Learning and Memory
NEUR 1560 Developmental Neurobiology
NEUR 1600 Experimental Neurobiology
NEUR 1630 Big Data Neuroscience Ideas Lab
NEUR 1650 Experimental Neurobiology
NEUR 1650 Structure of the Nervous System
NEUR 1660 Neural Computation in Learning and Decision-Making
NEUR 1740 The Diseased Brain: Mechanisms of Neuronal and Psychiatric Disorders
NEUR 1970 Independent Study

*Two Semesters of NEUR1970 can be used to fulfill one critical reading, lab, or elective requirement

NEUR 2110 Statistical Neuroscience
All NEUR 1930/1940 Seminar Course
CLPS 0120 Introduction to Sleep
CLPS 1150 Memory and the Brain
CLPS 1193 Laboratory in Genes and Behavior
CLPS 1180B Animal Languages
CLPS 1400 The Neural Bases of Cognition
CLPS 1478 Translational Models of Neuropsychiatric Disorder
CLPS 1480C Cognitive Control Functions of the Prefrontal Cortex
CLPS 1490 Functional Magnetic Resonance Imaging: Theory and Practice
CLPS 1492 Computational Cognitive Neuroscience
CLPS 1495 Affective Neuroscience
CLPS 1561 The Nature of Attention
CLPS 1580E Perception, Attention, and Consciousness
CLPS 1620 Developmental Cognitive Neuroscience
CLPS 1760 The Moral Brain
BIOL 1100 Cell Physiology and Biophysics
BIOL 1110 Topics in Signal Transduction
BIOL 1260 Physiological Pharmacology
ENGN 1220 Neuroengineering
PHP 1890 The Craving Mind
BIOL 1545 Human Genetics and Genomics
COST 1020 Cognitive Neuroscience of Meditation

List 2: Selected common non-neuro courses (no more than 2) - student must be able to justify why it enhances their understanding of Neuro

BIOL 0470 Genetics
BIOL 0800 Principles of Physiology
BIOL 1050 Biology of the Eukaryotic Cell
BIOL 1540 Molecular Genetics
CLPS 0950 Introduction to programming
CLPS 1195 Life Under Water in the Anthropocene
CLPS 1500 Perception and Action

Completing the Concentration Research Requirement As with other ScB concentrations, neuroscience concentrators are required (beginning with the class of 2023) to do the equivalent of one semester of independent study, research or design. This is a chance for the student to explore and apply the concepts that they have learned in their concentration courses. The following are ways in which this research requirement can be met. After consulting with your concentration advisor, be sure to include how you will fulfill your research requirement in the appropriate box within ASK: 1. Enrolling in independent study courses (NEUR 1970, CLPS 1970/80 or BIO 1950/60) for work in a lab. Keep in mind to count this towards your concentration two semesters or one semester and a summer are required. 2. Enrolling in independent study (NEUR 1970) to work with a faculty member to explore an integrative topic related to neuroscience. See our section on independent study for more information. 3. Enrolling in a course-based research experience, also known as a CURE course. Current related CURE courses are NEUR 1630, CLPS 1195, CLPS 1591, but there might be new ones coming down the pipeline. 4. Participating in a structured summer research program (eg. an UTRA or an REU) that is equivalent in scope and scale as would be pursued during a semester of independent research. 5. Pursue a design or independent research project related to neuroscience that could be associated with a different course. 6. Anyone writing an honors thesis automatically fulfills the research requirement, in order to document your research requirement, please describe your plan in your Concentration Agreement and in ASK, be sure to discuss it with your concentration advisor to make sure it is appropriate. Honors: Honors in Neuroscience requires a thesis and presentation based on a research project, and quality grades in the concentration. Guidelines and information on faculty research as well as details about declaring Honors are available in the Undergraduate Neuroscience Page [https://www.brown.edu/academics/neuroscience/undergraduate-concentration].

Total Credits 17

1 Independent study and honors research projects are encouraged.

Philosophy

The Philosophy concentration offers courses covering subjects from the history of philosophy to the philosophies of science and literature. It also provides survey courses on various periods in the history of philosophy. Concentrators can expect to acquire a broad competence in philosophy itself, including ancient European and early modern philosophy, logic, epistemology and metaphysics. The concentration also teaches, and stresses, skills in critical thinking and writing. There is also a related, but separate concentration in physics and philosophy.

Standard Concentration

10 courses total, of which no more than one may be below PHIL 0100, and at least three must be at or above PHIL 0990.

Five Area Requirements:

One course in Ancient Philosophy, e.g.
PHIL 0110 Ancient Greek Philosophy
PHIL 1110 Plato
PHIL 1120 Aristotle

One course in Early Modern Philosophy, e.g.
PHIL 0210 Early Modern Philosophy
PHIL 1210 Locke, Berkeley, Hume and Others
PHIL 1220 17th Century Continental Rationalism
PHIL 1230 Kant: The Critique of Pure Reason

One course in Epistemology or Metaphysics, e.g.
PHIL 1735 Metaphysics
PHIL 1705 Epistemology
PHIL 1800 Philosophy of Mind

For up-to-date course information please visit Courses@Brown.edu [https://cab.brown.edu].
PHIL 1850 Philosophy of Language
One course in Ethics or Political Philosophy, e.g. 1
PHIL 0410 Moral Philosophy
PHIL 0430 Ethical Themes in the Contemporary American Short Story
PHIL 0560 Political Philosophy
PHIL 1470 Ethics in the Novel
PHIL 1430 Moral Theories
PHIL 1440 The Nature of Morality

One course in Logic, e.g. 1
PHIL 0640 Logic
PHIL 1630 Mathematical Logic
PHIL 1635 Advanced Deductive Logic

One Seminar: either an undergraduate seminar from the 099X series or a graduate seminar at the 2000-level 1

Four additional courses 4

Total Credits 10

Note:
Up to two courses from departments other than the Philosophy department may be included among the ten courses required for the Concentration. These courses may not be counted toward fulfillment of the area requirements.

Capstone Requirement
Every philosophy concentrator must complete a capstone project. The capstone will be normally be completed in a student’s last undergraduate year, and it should make use of a significant portion of what the student has learned in their undergraduate education, broadly interpreted. There are three options for the capstone course in philosophy:

1. A Senior Thesis: A substantial paper, typically about 40-60 pages, that is researched and written over the course of the senior year under the supervision of a faculty advisor. Typically, students writing a thesis will enroll in PHIL 1995, Senior Thesis, both semesters. (In order for a student to be permitted to write a Senior Thesis, they must have completed at least six courses in the concentration and have received a grade either of A or of Satisfactory with Distinction in more than half of them.)
2. An Independent Study: A one-semester reading course (PHIL 1990) under the direction of a faculty advisor, leading to a substantial research paper, typically 15-25 pages.
3. A Special Project undertaken in connection with a philosophy course at or above 0990: Examples include a more-in-depth final paper than is otherwise required or a presentation of some of the material to the class, though students are encouraged to make creative proposals, as well. The specific project should be discussed with, and must be approved by, the instructor of the relevant course.

Every philosophy concentrator must file the Declaration of Capstone Project by the end of shopping period in their final semester. For further details on the Honor’s Thesis and Capstone Requirement, see “Senior Year Options” and “Thesis” on the Departmental website.

Honors Requirements:
To qualify for Honors, a student must:
1. Have grades of either A or Satisfactory with Distinction in more than half their philosophy courses and any courses from outside the department that they are counting towards the concentration.
2. Successfully complete a Senior Thesis that, in the judgment of the advisor and second reader (to be appointed by the Director of Undergraduate Studies), is worthy of an Honors recommendation.

Physics
Physics is the scientific study of the fundamental principles governing the behavior of matter and the interaction of matter and energy. Mathematics is used to describe fundamental physical principles, the behavior of matter, and the interactions of matter and energy. As the most fundamental of sciences, physics provides a foundation for other scientific fields as well as the underpinnings of modern technology. The Physics department is unique because of the breadth of its faculty expertise and research, and the relatively intimate size of its classes above the introductory level. Physics concentrators may choose to pursue either the A.B. or the more intensive Sc.B. degree. Course work on either path covers a broad base of topics (for example, electricity and magnetism, classical and quantum mechanics, thermodynamics, and statistical mechanics). The Sc.B. degree requires additional advanced topics as well as a senior thesis project.

Standard concentration for the A.B. degree
Select one of the following Series: 2

PHYS 0030 or PHYS 0050
Basic Physics A
Foundations of Mechanics
PHYS 0070 Analytical Mechanics

PHYS 0040 or PHYS 0060
Basic Physics B
Foundations of Electromagnetism and Modern Physics
or PHYS 0160
Introduction to Relativity, Waves and Quantum Physics

Take each of the following:
PHYS 0470 Electricity and Magnetism
PHYS 0500 Advanced Classical Mechanics
PHYS 0560 Experiments in Modern Physics
PHYS 1410 Quantum Mechanics A
PHYS 1530 Thermodynamics and Statistical Mechanics
(One additional 1000-level course or a mathematics course beyond the introductory level.)

One additional 1000-level course or a mathematics course beyond the introductory level. 1

Total Credits 8

Standard program for the Sc.B. degree
Prerequisites:
Select one of each: 2

PHYS 0050 Foundations of Mechanics
or PHYS 0070 Analytical Mechanics
or PHYS 0060 Foundations of Electromagnetism and Modern Physics
or PHYS 0160 Introduction to Relativity, Waves and Quantum Physics

Select one of the following:
MATH 0190 Single Variable Calculus, Part II (Physics/Engineering)
or MATH 0090 Single Variable Calculus, Part I
or MATH 0100 Single Variable Calculus, Part II

Program: 8
PHYS 0470 Electricity and Magnetism
PHYS 0500 Advanced Classical Mechanics
PHYS 0560 Experiments in Modern Physics
PHYS 1410 Quantum Mechanics A
PHYS 1420 Quantum Mechanics B
PHYS 1510 Advanced Electromagnetic Theory
PHYS 1530 Thermodynamics and Statistical Mechanics
PHYS 1560 Modern Physics Laboratory

Take one additional 1000 or 2000 level Physics course or upper level course in related fields of science chosen by the student with the agreement of his or her advisor.

Four Mathematics courses beyond MATH 0190 or 0090, 0100 including choices from Applied Mathematics 1

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Undergraduate Concentrations

PHYS 1990  Senior Conference Course 2 1

Total Credits 17

1 In addition, courses in computer programming are recommended.

2 A senior thesis is required. This is to be prepared in connection with PHYS 1990 under the direction of a faculty supervisor. The topic may be in a related department or of interdisciplinary nature. In any event, a dissertation must be submitted.

Astrophysics Track for the Sc.B. degree

Prerequisites:
Select one of each: 2

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<th>Description</th>
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<tr>
<td>PHYS 0050</td>
<td>Foundations of Mechanics</td>
</tr>
<tr>
<td>PHYS 0060 or PHYS 0070</td>
<td>Analytical Mechanics</td>
</tr>
<tr>
<td>PHYS 0160</td>
<td>Foundations of Electromagnetism and Modern Physics</td>
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<tr>
<td>PHYS 0270</td>
<td>Astronomy and Astrophysics</td>
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Select one of the following Series: 2

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<td></td>
<td>MATH 0180 Single Variable Calculus, Part II (Accelerated) and Multivariable Calculus</td>
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<tr>
<td>B</td>
<td>MATH 0190</td>
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<tr>
<td></td>
<td>MATH 0200 Single Variable Calculus, Part II (Physics/Engineering) and Multivariable Calculus (Physics/Engineering)</td>
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<td>MATH 0350 Multivariable Calculus With Theory (or equivalent)</td>
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<td>PHYS 0470 Electricity and Magnetism</td>
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Program:

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<tr>
<td>MATH 0520 or MATH 0540 or PHYS 0720</td>
<td>Linear Algebra 1 or Linear Algebra With Theory or Methods of Mathematical Physics</td>
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<td>APMA 0340</td>
<td>Methods of Applied Mathematics II</td>
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<td>APMA 0350</td>
<td>Applied Ordinary Differential Equations</td>
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<td>APMA 0360</td>
<td>Applied Partial Differential Equations I</td>
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<td>MATH 1110</td>
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<td>PHYS 0500</td>
<td>Advanced Classical Mechanics</td>
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<td>PHYS 0560</td>
<td>Experiments in Modern Physics</td>
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<tr>
<td>PHYS 1410</td>
<td>Quantum Mechanics A</td>
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<tr>
<td>PHYS 1530</td>
<td>Thermodynamics and Statistical Mechanics</td>
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Three of the following: 3

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<th>Description</th>
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<tbody>
<tr>
<td>PHYS 1100</td>
<td>General Relativity</td>
</tr>
<tr>
<td>PHYS 1250</td>
<td>Stellar Structure and the Interstellar Medium</td>
</tr>
<tr>
<td>PHYS 1270</td>
<td>Extragalactic Astronomy and High-Energy Astrophysics</td>
</tr>
<tr>
<td>PHYS 1280</td>
<td>Introduction to Cosmology</td>
</tr>
</tbody>
</table>

Two additional 1000- or 2000-level courses in physics or a related field which are not listed as requirements. 2

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 1990</td>
<td>Senior Conference Course 1</td>
</tr>
</tbody>
</table>

Total Credits 18

1 A senior thesis is required. This is to be prepared in connection with under the direction of a faculty supervisor. The topic may be in a related department or of interdisciplinary nature. In any event, a dissertation must be submitted.

Biological Physics Track for the Sc.B. degree

Foundations of Physics

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 0070 or PHYS 0050 or ENGN 0040</td>
<td>Analytical Mechanics or Foundations of Mechanics or Dynamics and Vibrations</td>
</tr>
<tr>
<td>PHYS 0160</td>
<td>Introduction to Relativity, Waves and Quantum Physics</td>
</tr>
<tr>
<td>or PHYS 0060</td>
<td>Foundations of Electromagnetism and Modern Physics</td>
</tr>
<tr>
<td>PHYS 0470</td>
<td>Electricity and Magnetism</td>
</tr>
<tr>
<td>PHYS 0500</td>
<td>Advanced Classical Mechanics</td>
</tr>
<tr>
<td>PHYS 1410</td>
<td>Quantum Mechanics A</td>
</tr>
<tr>
<td>PHYS 1530</td>
<td>Thermodynamics and Statistical Mechanics</td>
</tr>
</tbody>
</table>

Select one of the following Series: 1

<table>
<thead>
<tr>
<th>Series</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>PHYS 0720 Methods of Mathematical Physics</td>
</tr>
<tr>
<td>B</td>
<td>MATH 0520 Linear Algebra</td>
</tr>
<tr>
<td></td>
<td>MATH 0540 Linear Algebra With Theory</td>
</tr>
</tbody>
</table>

Basic Biology and Chemistry

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 0200</td>
<td>The Foundation of Living Systems (or placement out of BIOL 0200)</td>
</tr>
<tr>
<td>BIOL 0500</td>
<td>Cell and Molecular Biology</td>
</tr>
<tr>
<td>CHEM 0330</td>
<td>Equilibrium, Rate, and Structure</td>
</tr>
</tbody>
</table>

Advanced Biophysical Topics and Techniques

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 1610</td>
<td>Biological Physics</td>
</tr>
<tr>
<td>PHYS 1990</td>
<td>Senior Conference Course</td>
</tr>
</tbody>
</table>

Elective Courses (four chosen from the following list, with at least two 1000-level courses, or additional courses approved by the concentration advisor: 4

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>APMA 0360</td>
<td>Applied Partial Differential Equations I</td>
</tr>
<tr>
<td>APMA 0410</td>
<td>Mathematical Methods in the Brain Sciences</td>
</tr>
<tr>
<td>APMA 0650</td>
<td>Essential Statistics</td>
</tr>
<tr>
<td>APMA 1070</td>
<td>Quantitative Models of Biological Systems</td>
</tr>
<tr>
<td>APMA 1080</td>
<td>Inference in Genomics and Molecular Biology</td>
</tr>
<tr>
<td>BIOL 0280</td>
<td>Biochemistry</td>
</tr>
<tr>
<td>BIOL 0470</td>
<td>Genetics</td>
</tr>
<tr>
<td>BIOL 1050</td>
<td>Biology of the Eukaryotic Cell</td>
</tr>
<tr>
<td>BIOL 1200</td>
<td>Protein Biophysics and Structure</td>
</tr>
<tr>
<td>BIOL 1270</td>
<td>Advanced Biochemistry</td>
</tr>
<tr>
<td>BIOL 1870</td>
<td>Techniques and Clinical Applications in Pathobiology</td>
</tr>
<tr>
<td>CHEM 0350</td>
<td>Organic Chemistry I</td>
</tr>
<tr>
<td>CHEM 0360</td>
<td>Organic Chemistry II</td>
</tr>
<tr>
<td>MATH 0090</td>
<td>Single Variable Calculus, Part I</td>
</tr>
<tr>
<td>MATH 0170</td>
<td>Single Variable Calculus, Part II (Accelerated)</td>
</tr>
</tbody>
</table>

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
## Mathematical Physics Track for the A.B. degree

### Prerequisites:

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 0090</td>
<td>Single Variable Calculus, Part I</td>
</tr>
<tr>
<td>or MATH 0100</td>
<td>Single Variable Calculus, Part II</td>
</tr>
<tr>
<td>or MATH 0190</td>
<td>Single Variable Calculus, Part II (Physics/Engineering)</td>
</tr>
<tr>
<td>PHYS 0050</td>
<td>Foundations of Mechanics</td>
</tr>
<tr>
<td>or PHYS 0070</td>
<td>Analytical Mechanics</td>
</tr>
<tr>
<td>MATH 0180</td>
<td>Multivariable Calculus</td>
</tr>
<tr>
<td>or MATH 0200</td>
<td>Multivariable Calculus (Physics/Engineering)</td>
</tr>
<tr>
<td>or MATH 0350</td>
<td>Multivariable Calculus With Theory</td>
</tr>
<tr>
<td>MATH 0520</td>
<td>Linear Algebra</td>
</tr>
<tr>
<td>or MATH 0540</td>
<td>Linear Algebra With Theory</td>
</tr>
<tr>
<td>MATH 1110</td>
<td>Ordinary Differential Equations</td>
</tr>
</tbody>
</table>

Select at least one of the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 1060</td>
<td>Differential Geometry</td>
</tr>
<tr>
<td>MATH 1120</td>
<td>Partial Differential Equations</td>
</tr>
<tr>
<td>MATH 1610</td>
<td>Probability</td>
</tr>
<tr>
<td>PHYS 0060</td>
<td>Foundations of Electromagnetism and Modern Physics</td>
</tr>
<tr>
<td>or PHYS 0160</td>
<td>Introduction to Relativity, Waves and Quantum Physics</td>
</tr>
<tr>
<td>PHYS 0470</td>
<td>Electricity and Magnetism</td>
</tr>
<tr>
<td>PHYS 0500</td>
<td>Advanced Classical Mechanics</td>
</tr>
<tr>
<td>PHYS 0560</td>
<td>Experiments in Modern Physics</td>
</tr>
</tbody>
</table>

Select at least two of the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 1410</td>
<td>Quantum Mechanics A</td>
</tr>
<tr>
<td>PHYS 1420</td>
<td>Quantum Mechanics B</td>
</tr>
<tr>
<td>PHYS 1510</td>
<td>Advanced Electromagnetic Theory</td>
</tr>
<tr>
<td>PHYS 1530</td>
<td>Thermodynamics and Statistical Mechanics</td>
</tr>
<tr>
<td>PHYS 1560</td>
<td>Modern Physics Laboratory</td>
</tr>
</tbody>
</table>

### Mathematics Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 1090</td>
<td>Single Variable Calculus, Part II</td>
</tr>
<tr>
<td>or MATH 1100</td>
<td>Single Variable Calculus, Part II</td>
</tr>
<tr>
<td>or MATH 1190</td>
<td>Single Variable Calculus, Part II (Physics/Engineering)</td>
</tr>
</tbody>
</table>

### Physics Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 0050</td>
<td>Foundations of Electromagnetism and Modern Physics</td>
</tr>
<tr>
<td>or PHYS 0070</td>
<td>Analytical Mechanics</td>
</tr>
<tr>
<td>PHYS 0060</td>
<td>Foundations of Electromagnetism and Modern Physics</td>
</tr>
<tr>
<td>or PHYS 0160</td>
<td>Introduction to Relativity, Waves and Quantum Physics</td>
</tr>
<tr>
<td>PHYS 0470</td>
<td>Electricity and Magnetism</td>
</tr>
<tr>
<td>PHYS 0500</td>
<td>Advanced Classical Mechanics</td>
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<tr>
<td>PHYS 0560</td>
<td>Experiments in Modern Physics</td>
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<td>PHYS 1410</td>
<td>Quantum Mechanics A</td>
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<td>Advanced Electromagnetic Theory</td>
</tr>
<tr>
<td>PHYS 1530</td>
<td>Thermodynamics and Statistical Mechanics</td>
</tr>
<tr>
<td>PHYS 1560</td>
<td>Modern Physics Laboratory</td>
</tr>
<tr>
<td>PHYS 1990</td>
<td>Senior Conference Course</td>
</tr>
</tbody>
</table>

### Total Credits

17-18

1 Select Series A alone or two from Series B as indicated.
2 A senior thesis is required. This is to be prepared in connection with the direction of a faculty supervisor. The topic may be in a related department or of interdisciplinary nature. In any event, a dissertation must be submitted.

### Required courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 0470</td>
<td>Electricity and Magnetism</td>
</tr>
<tr>
<td>PHYS 0500</td>
<td>Advanced Classical Mechanics</td>
</tr>
<tr>
<td>PHYS 0560</td>
<td>Experiments in Modern Physics</td>
</tr>
<tr>
<td>PHYS 1410</td>
<td>Quantum Mechanics A</td>
</tr>
<tr>
<td>PHYS 1530</td>
<td>Thermodynamics and Statistical Mechanics</td>
</tr>
<tr>
<td>MATH 0180</td>
<td>Multivariable Calculus</td>
</tr>
<tr>
<td>or MATH 0200</td>
<td>Multivariable Calculus (Physics/Engineering)</td>
</tr>
<tr>
<td>or MATH 0350</td>
<td>Multivariable Calculus With Theory</td>
</tr>
<tr>
<td>MATH 0520</td>
<td>Linear Algebra</td>
</tr>
<tr>
<td>or MATH 0540</td>
<td>Linear Algebra With Theory</td>
</tr>
<tr>
<td>or PHYS 0720</td>
<td>Methods of Mathematical Physics</td>
</tr>
<tr>
<td>MATH 1260</td>
<td>Complex Analysis</td>
</tr>
<tr>
<td>Four additional 1000 or 2000 level Physics courses</td>
<td></td>
</tr>
<tr>
<td>Two additional 1000 or 2000 level Math courses</td>
<td></td>
</tr>
<tr>
<td>PHYS 1990</td>
<td>Senior Conference Course</td>
</tr>
</tbody>
</table>

### Total Credits

18-20

1 A senior thesis is required. This is to be prepared in connection with the direction of a faculty supervisor.

## Physics and Philosophy

The Physics and Philosophy concentration is for students with a deep interest in physics who do not need to acquire the laboratory and computational skills of a professional physicist. The concentration allows students to grapple with computational problems and deepen their investigation of conceptual and epistemological issues. By the end of the program, concentrators possess an excellent conceptual understanding of the most philosophically interesting physics, relativity and quantum mechanics.

This concentration should prepare a student either for graduate study, especially in a history and philosophy of science (HPS) program, or for employment in science education or journalism. Other professions such as law and medicine will look favorably on such concentrators for having versatile interests and being able to master difficult material. The concentration may serve as an excellent preparation for a law school since physics and philosophy both exercise a rigorous approach to problems of immediate relevance to life but at the same time assume two complimentary and sometimes competing viewpoints.

### Advising

Concentration advisors from the Departments of Physics and Philosophy will guide students working towards the A.B. degree.

### Curriculum

The curriculum builds around the fields of physics that have had the biggest impact on philosophy, especially Quantum Physics, and the fields of philosophy most relevant for physics, such as Epistemology, Metaphysics and Philosophy of Physics. It is strongly recommended that students complete at least one relevant history course.

There are 11 required courses (5 in Physics, 5 in Philosophy or History, one course in mathematics) and a final project. The choice

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
of the courses is dictated by the following considerations. The field of physics with both deepest philosophical implications and deepest influence on the rest of physics is Quantum Mechanics. Thus, a 1000-level course in Quantum Mechanics or a closely related field such as Statistical Mechanics is indispensable. The second field of physics most relevant for the concentration is Relativity. This field touches upon and serves as a foundation for a broad list of subjects with major philosophical implications of their own, for example, PHYS 1170, PHYS 1280, PHYS 1510, PHYS 1100. This requires another 1000-level physics course in the concentration. 1000-level Physics courses cannot be taken without certain preliminary work, most importantly, PHYS 0470, which serves as a prerequisite for most higher-level physics courses and which relies in turn on PHYS 0160 or PHYS 0080. Another lower-level physics course is necessary for a student to develop familiarity with the tools which have been employed in producing the physics knowledge.

A natural introduction into philosophy of physics comes from a course in Early Modern Philosophy. To a large extent, Early Modern Philosophy was shaped by scholars who combined interest in philosophy and physics (e.g., Rene Descartes, Blaise Pascal, Gottfried Wilhelm Leibniz). The influence of the XVII century physics revolution on other central figures such as Kant is unquestionable. Early Modern Philosophy sets an intellectual stage for many subsequent developments in the Philosophy of Physics and directly addresses some of the most perplexing issues like the connection (or lack thereof) between physics and religion. The core of the Philosophy requirement involves two courses in Epistemology, Metaphysics and Philosophy of Science. One course in this field would not be sufficient due to its very broad nature. Students are strongly advised to take a relevant History course. This requirement can be substituted by an additional philosophy course to reflect interests of those students who want a deeper background in Epistemology, Metaphysics and Philosophy of Science or have other related interests such as Ancient Natural Philosophy.

In addition to the above philosophy courses, PHIL 0210 (Science, Perception, and Reality) serves as a gateway into the concentration. It may be substituted by other relevant courses such as PHYS 0100 (Flat Earth to Quantum Uncertainty: On the Nature and Meaning of Scientific Explanation).

A course in calculus is a prerequisite for most physics and some philosophy classes.

Required courses for the A.B. degree are listed below:

**Physics Courses**

Select one of the following introductory courses in Modern Physics:

- PHYS 0060 Foundations of Electromagnetism and Modern Physics
- PHYS 0160 Introduction to Relativity, Waves and Quantum Physics

One course in Special Relativity and Classical Field Theory:

- PHYS 0470 Electricity and Magnetism

Select one of the following in Methods of Experimental and Theoretical physics:

- PHYS 0500 Advanced Classical Mechanics
- PHYS 0560 Experiments in Modern Physics

Select one of the following in Quantum Mechanics and its applications:

- PHYS 1410 Quantum Mechanics A
- PHYS 1530 Thermodynamics and Statistical Mechanics

One more 1000-level Physics course

**Philosophy Courses**

Select one of the following gateway courses:

- PHIL 0210 Early Modern Philosophy
- PHIL 0060 Modern Science and Human Values
- PHIL 0640 Logic

Select one of the following courses in Early Modern Philosophy:

- PHIL 0270 Early Modern Philosophy
- PHIL 1210 Locke, Berkeley, Hume and Others
- PHIL 1220 17th Century Continental Rationalism
- PHIL 1230 Kant: The Critique of Pure Reason

Select two of the following courses in Epistemology, Metaphysics and Philosophy of Science:

- PHIL 1705 Epistemology
- PHIL 1735 Metaphysics
- PHIL 1755 Philosophy of Science
- PHIL 1775 Philosophy of Quantum Mechanics
- PHIL 1780 Time

**History Courses**

Select one of the following courses in History of Science:

- HIST 0522N Reason, Revolution and Reaction in Europe
- HIST 1825M Science at the Crossroads
- HIST 1976I Imperialism and Environmental Change

**Calculus**

Select one of the following:

- MATH 0180 Multivariable Calculus
- MATH 0200 Multivariable Calculus (Physics/Engineering)
- MATH 0350 Multivariable Calculus With Theory

**Final Project**

Select one of the following:

- PHIL 1990 Independent Studies
- PHYS 1990 Senior Conference Course

A course from the PHIL 0990 Senior Seminar series

Any graduate seminar in Philosophy

**Total Credits**

12

1 Or one more Philosophy course.

**Honors**

Seniors wishing to earn honors by presenting a senior honors thesis should consult their concentration advisor during their sixth semester or at the start of the seventh semester concerning procedures and requirements. Students may earn honors by presenting a senior thesis judged to be of honors quality by two readers. In addition to completing the usual nonhonors requirements, the student should also have a grade point average of over 3.4 in physics, philosophy and history of science courses (of which at least five must be taken for a letter grade). Honors theses are usually prepared over a period of two semesters with an advisor from the Department of Physics or the Department of Philosophy.

**Political Science**

Why do Hindus and Muslims live in harmony in one city and fight bitterly in another just a few miles away? Why is the U.S. the only industrialized nation without a complete national health insurance? What is the legacy of slavery in the U.S.? Why are there so few women in Congress? How is radicalism in the Middle East changing? Why and how does democracy flourish? Just what is democracy? How do emotions shape our political behavior? What do war movies tell us about the USA? Would less government lead to more social justice? What is social justice? How does smuggling (of drugs, guns, and people) reshape international relations? How do immigrants see the American Dream? What is the American dream?

Political science is about questions like these. You can grapple with every one of them—and many more—in the classrooms of the Brown political science department. We study how people—nations, regions, cities, communities—live their common lives. How people solve (or duck) their common problems. How people govern themselves. How they think, talk, argue, fight, and vote. Students passionate about social challenges may also choose to pursue the Engaged Scholars Program, which allows them...
Introduction to the American Political Portuguese Stylistics: Advanced Foundations of Political Analysis

Requirements:

Two introductory courses from the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>POLS 0010</td>
<td>Introduction to the American Political Process</td>
<td>2</td>
</tr>
<tr>
<td>POLS 0110</td>
<td>Introduction to Political Thought</td>
<td></td>
</tr>
<tr>
<td>POLS 0200</td>
<td>Introduction to Comparative Politics</td>
<td></td>
</tr>
<tr>
<td>POLS 0400</td>
<td>Introduction to International Politics</td>
<td></td>
</tr>
</tbody>
</table>

One course in Political Theory taught by a Political Science theory professor 1

One methods course from Political Science: 2

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>POLS 0500</td>
<td>Foundations of Political Analysis</td>
<td>1</td>
</tr>
<tr>
<td>POLS 1600</td>
<td>Political Research Methods</td>
<td></td>
</tr>
</tbody>
</table>

One Senior Capstone course taken from the POLS 1820 / 1821 / 1822 / 1823 / 1824 / 1825 offerings, or the independent studies sequence POLS 1970 / 1971, or the honors sequence POLS 1910 / 1920. The capstone course must be taken at Brown during the senior year. However, with exceptional circumstances and with permission and approval of the course from the DUS, a non-Brown course may fulfill this requirement.

Five additional courses from within Political Science and/or taught by a Political Science faculty member 1

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>POLS 1910</td>
<td>Introduction to Poverty</td>
<td></td>
</tr>
<tr>
<td>POLS 1920</td>
<td>Introduction to Latin America</td>
<td></td>
</tr>
<tr>
<td>POLS 1930</td>
<td>Introduction to Portuguese and Brazilian Studies</td>
<td></td>
</tr>
<tr>
<td>POLS 1940</td>
<td>Introduction to Border Regions</td>
<td></td>
</tr>
</tbody>
</table>

Honor

Completion of the methods requirement is required prior to applying to the Honors program. Students must also complete an honors research project and take POLS 1910 and POLS 1920 during the senior year. POLS 1910 and POLS 1920 will count as one credit towards the 10 required Political Science courses for the concentration.

Portuguese and Brazilian Studies

Portuguese and Brazilian Studies examines the Portuguese-speaking world, a large and diverse geographical and cultural area spread over five continents. Inhabited by two hundred fifty million people, this area includes Brazil, Continental and Insular Portugal, Lusophone Africa and Luso-America. Although concentrators are encouraged to examine the global nature of the Portuguese-speaking world, typically they focus on one of the specific geographical entities mentioned above. Concentrators will strengthen their Portuguese language skills (Portuguese 400 or the equivalent is a pre-requisite) and explore relevant Lusophone literature, education, history and social science. The concentration offers one program in language and literature and another that is interdisciplinary. Most concentrators study abroad in either Brazil or Portugal.

Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>POBS 0630 series</td>
<td>Topics in Portuguese-Speaking Cultures</td>
<td>1-2</td>
</tr>
<tr>
<td>POLS 1030</td>
<td>Portuguese Stylistics: Advanced Language Study and Creative Writing</td>
<td>1</td>
</tr>
<tr>
<td>POLS 1800B</td>
<td>Lusofonia: National Identities and Transnational Challenges  2</td>
<td>1</td>
</tr>
<tr>
<td>or POLS 1800C</td>
<td>Constructing Men, Projecting Masculinity: Questioning Gender, Sex, and Sexuality in Brazil</td>
<td></td>
</tr>
<tr>
<td>or POLS 1800E</td>
<td>The Brazilian Puzzle: Confronting the Post-Colonial Legacy</td>
<td></td>
</tr>
<tr>
<td>or POLS 1800F</td>
<td>The Lusophone World and the Struggle for Modernity</td>
<td></td>
</tr>
</tbody>
</table>

Five (or four, if two POBS 0630 courses were completed) additional courses from Portuguese and Brazilian Studies and/or related departments, such as History, Africana Studies, Political Science, Anthropology, Sociology, Music, and the Watson Institute. These courses are intended to develop students' specific interests within the concentration.

Total Credits 8

1 Up to two courses in the POBS 0630 series may be counted toward concentration requirements, provided they are on different topics.
2 Conducted in Portuguese, the seminar brings the concentrators together for an interdisciplinary consideration of key topics in the Portuguese-speaking world. A research paper written in Portuguese is required.

Senior Project (optional)

In addition to taking a POBS 1800-series concentration seminar, students may choose to complete a senior project attached to any course in Portuguese and Brazilian Studies and related fields, including the Concentration Seminar, the latter possibility to be made at the discretion of the instructor. The advisor of the senior project is the professor of the course from which the project stems. Projects are not limited to papers, and may include short documentaries, a visual arts project, or an oral history project.

Psychology

Psychology encompasses a range of phenomena and levels of analysis in pursuit of three goals: to deepen our understanding of cognitive and neural mechanisms of sensation, perception, learning, and emotion; to probe the biological and evolutionary foundations of behavior; and to clarify the social perception and assessment of individuals and groups. Students take foundation courses in the field's major sub-disciplines, including perception, cognition, developmental, behavioral neuroscience, and social psychology. Students also take a course in quantitative methods, and select from an array of seminars on specialized topics and laboratory courses that focus on research design and state-of-the-art techniques. The concentration in Psychology prepares students for careers in research, teaching, clinical psychology, business, law, and education, among others. The A.B. concentration requires 12 courses. The Sc.B. concentration additionally requires 1 laboratory course and 4 approved science courses, totaling to 17 required courses.

Common Core

The introductory course, “CLPS 0010 Mind, Brain, and Behavior,” surveys the broad territory of the scientific study of the mind as uniquely represented by our department. The territory includes neural processes, perception, learning, memory, emotion, language, social development, social judgment, personality, and mental illness. The course could be taken by students interested in the CLPS concentrations, as an introduction at the beginning of one's college career, or as an integration after having completed a number of specialized courses in a particular concentration. AP or IB Psychology credit cannot be used as a substitute for CLPS 0010.

Careers in Psychology and related fields requires familiarity with statistics. Therefore, the Psychology concentration requires a course in Quantitative Methods (CLPS 0900). CLPS 0900 is a prerequisite for research.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
methods and laboratory courses, so concentrators should plan to take this course by their fourth semester. Students may substitute for CLPS 0900 a comparable statistics course taught in another department, with the approval of a Psychology concentration advisor. Consult with a concentration advisor for details. The department does not grant concentration credit for AP Statistics, regardless of score.

Another element in the Psychology concentration is a course on research methods. Research Methods and Design (CLPS 1900 or Research Methods CLPS 1901) is the preferred course for fulfilling this requirement. This course builds on the introductory statistics course and exposes students to a variety of topics in the psychological sciences: to empirical methods (e.g., surveys, chronometry, eye tracking, brain imaging), to common designs (e.g., factorial experimental, correlational, longitudinal), to research ethics, and to best practices of literature review. Other CLPS laboratory courses can be used to fulfill the research methods requirement; consult with a Psychology advisor for lists of approved courses. Laboratory or research methods courses in other departments cannot be used to fulfill the research methods requirement. The research methods requirement should be fulfilled before senior year.

**Foundation**

To provide students with a solid foundation of knowledge in their area of concentration, the Psychology concentration requires four foundation courses, representing core areas of Psychology as a science. Foundation courses are all numbered below the 1000 level. List of approved foundation courses are posted on the CLPS undergraduate page. CLPS courses above the 1000 level and courses in other departments, at any level, cannot be used to satisfy foundation requirements.

**Electives**

Concentrators will select four additional courses that examine in greater depth topics of special interest to them. The CLPS courses designed to count as electives will often have foundation courses as prerequisites. Electives can be chosen from laboratory courses, lecture courses, or seminars. At least two electives should be at the 1000 level. In addition, students may choose up to two courses outside of CLPS (preferably at the 1000 level) as electives. Electives should fit into a coherent intellectual theme, and should be chosen in consultation with a concentration advisor.

**Capstone**

Students must take a capstone course, typically in their senior year. This can be a 1000 level seminar/discussion course in CLPS, or an independent study course (CLPS 1970, CLPS 1980). See a Psychology concentration advisor for more detail.

**Additional requirements for Sc.B.**

In line with university expectations, the Sc.B. requirements include a greater number of courses and especially science courses. The definition of "science" is flexible. Some of these courses will be outside of CLPS, but several CLPS courses might fit into a coherent package as well. In addition, the Sc.B. degree also requires a laboratory course (in addition to CLPS 1900/CLPS 1901 or its alternative) to provide these students with in-depth exposure to research methods in a particular area of the science of the mind. Lists of approved laboratory courses can be obtained from the Psychology concentration advisors.

**Honors Requirement**

The Honors Program in Psychology gives undergraduates a special opportunity to carry out a research project under the direction of a faculty member. The program also provides the opportunity for outstanding senior concentrators to receive their undergraduate degree with Honors. Participation in the program allows students to develop an understanding of research and acquire research skills and background.

Candidates for Honors in Psychology must meet all of the requirements of the concentration as described above. Candidates submit their application for the program in semester 7. We encourage students to seek out a potential faculty mentor prior to semester 7. Candidates for Honors must have completed the Statistics CLPS 0900 and Research Methods and Design (CLPS 1900, Research Methods CLPS 1901, or laboratory course) requirements before semester 7. Please refer to the CLPS Honors Program page for detailed information about the specific requirements for the Honors program in Psychology.

FOR DETAILED UPDATES, PLEASE REFER TO THE COGNITIVE, LINGUISTIC, AND PSYCHOLOGICAL SCIENCES (CLPS) UNDERGRADUATE PAGE.

### Requirements for the A.B. degree

#### STANDARD PROGRAM FOR THE A.B. DEGREE

<table>
<thead>
<tr>
<th>Common Core</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLPS 0010 Mind, Brain and Behavior: An Interdisciplinary Approach</td>
<td>1</td>
</tr>
<tr>
<td>CLPS 0900 Statistical Methods</td>
<td>1</td>
</tr>
<tr>
<td>CLPS 1900 Research Methods and Design (or approved laboratory course)</td>
<td>1</td>
</tr>
</tbody>
</table>

OR

<table>
<thead>
<tr>
<th>Elective</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLPS 1901 Research Methods (or approved laboratory course)</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>One approved course in Social</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>CLPS 0220 Making Decisions</td>
<td>1</td>
</tr>
<tr>
<td>CLPS 0700 Social Psychology</td>
<td>1</td>
</tr>
<tr>
<td>CLPS 0710 The Psychology and Philosophy of Happiness</td>
<td>1</td>
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<table>
<thead>
<tr>
<th>One approved course in Perception/Cognition</th>
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</thead>
<tbody>
<tr>
<td>CLPS 0200 Human Cognition</td>
<td>1</td>
</tr>
<tr>
<td>CLPS 0450 Brain Damage and the Mind</td>
<td>1</td>
</tr>
<tr>
<td>CLPS 0500 Perception and Mind</td>
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<table>
<thead>
<tr>
<th>One approved course in Development</th>
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<tbody>
<tr>
<td>CLPS 0610 Children’s Thinking: The Nature of Cognitive Development</td>
<td>1</td>
</tr>
<tr>
<td>CLPS 0620 Social and Moral Development</td>
<td>1</td>
</tr>
<tr>
<td>CLPS 0701 Personality Theory</td>
<td>1</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>One approved course in Learning/Animal Behavior</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CLPS 0100 Learning and Conditioning</td>
<td>1</td>
</tr>
<tr>
<td>CLPS 0110 Animal Behavior</td>
<td>1</td>
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</tbody>
</table>

Four approved Electives related to Psychology

Capstone: Independent Study (CLPS 1970, CLPS 1980) or approved seminar

**Total Credits**: 12

### Requirements Specific for the Sc.B. degree

#### STANDARD PROGRAM FOR THE Sc.B. DEGREE

<table>
<thead>
<tr>
<th>Common Core</th>
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OR

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</tr>
<tr>
<td>CLPS 0701 Personality Theory</td>
<td>1</td>
</tr>
</tbody>
</table>

**Total Credits**: 12

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
### Public Health

Public Health is an interdisciplinary concentration through which students examine a variety of health issues, including population health and disease, health policy, cross-cultural and international aspects of health, the organizational and social structures through which health services are delivered and received, and the public health system. Courses in the concentration allow students to explore the ways in which the social, political, behavioral and biological sciences contribute to the understanding of patterns of population distributions of health and disease. The concentration also provides students with courses in basic research methods and statistics necessary for problem solving and critical thinking in the emerging emphasis on evidence-based health care and public health.

### Requirements for Class of 2023 and Beyond

1. **Core Courses (non-substitutable; 5 required for all students):**
   - PHP 0310 Health Care in the United States
   - PHP 0320 Introduction to Public Health
   - PHP 0850 Fundamentals of Epidemiology
   - PHP 1501 Essentials of Data Analysis
   - PHP 1910 Public Health Senior Seminar (required of all non-honors seniors; FALL)

   Or
   - PHP 1915 Pub Health Honors Senior Sem

2. **Environmental Health and Policy (select one of the following):**
   - PHP 0720 Public Health and the Environment
   - PHP 1101 World of Food: Personal to Global Perspectives on Nutrition, Agriculture and Policy
   - PHP 1700 Current Topics in Environmental Health
   - PHP 1730 Climate Risks and Health Solutions

3. **Health, Health Care Systems, and Policy (select one of the following):**
   - PHP 0330 Public Health Policy
   - PHP 0650 From Manufacturer to Patient: Why is the Cost of Prescription Drugs So Darn High?
   - PHP 1100 Comparative Health Care Systems
   - PHP 1450 COVID-19, Public Health, and Health Policy

4. **Social and Behavioral Science for Prevention (select one of the following):**
   - PHP 0400 Intro. to Health Disparities & Making Connection bw Structure, Social Determinants&Health Equity
   - PHP 0700 Global Public Health Interventions

5. **Global Health Elective (select one of the following):**
   - PHP 0200 Introduction to Global Public Health Interventions
   - PHP 0720 Public Health and the Environment
   - PHP 1070 Global Burden of Disease
   - PHP 1802S Human Security and Humanitarian Response: Increasing Effectiveness and Accountability

6. **Health Disparities Elective (select one of the following):**
   - PHP 0400 Intro. to Health Disparities & Making Connection btw Structure, Social Determinants&Health Equity
   - PHP 1650 Race, Racism and Health
   - PHP 1680I Pathology to Power: Disability, Health and Community
   - PHP 1680U Intersectionality and Health Inequities
   - PHP 1810 Community-Engaged Research in Public Health
   - PHP 1820 Designing Education for Better Prisoner and Community Health
   - PHP 1821 Incarceration, Disparities, and Health
   - PHP 1920 Social Determinants of Health

7. **Biology (select one of the following):**
   - BIOL 0030 Principles of Nutrition
   - BIOL 0001 The Foundation of Living Systems
   - BIOL 0470 Genetics
   - BIOL 0510 Introductory Microbiology
   - BIOL 0530 Principles of Immunology
   - BIOL 0800 Principles of Physiology
   - BIOL 0860 Diet and Chronic Disease

8. **Public Health Elective (select any one PHP course OR one of the following Humanities/Fine Arts/Humanistic Social Sciences for Public Health courses):**
   - AFRI 0550 African American Health Activism from Emancipation to AIDS
   - AFRI 1060W Policy, Culture and Discourse that Shape Health and Access to Healthcare
   - AFRI 1060Z Race, Sexuality, and Mental Disability History (HMAN 1973A)
   - AMST 1600C The Anti-Trafficking Savior Complex: Saints, Sinners, and Modern-Day Slavery
   - AMST 1601 Health and Healing in American History (STS 1110, GNSS 1960B)
   - CLPS 0710 The Psychology and Philosophy of Happiness (PHIL 0650)
   - COLT 0610Y Women’s Writing in the Arab World
   - COLT 1810P Literature and Medicine
   - COST 0032 Music and Meditation
   - COST 0100 Introduction to Contemplative Studies
   - ENGL 1030C Writing Science

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
ENGL 1140D Writing Diversity: A Workshop
ETHN 1750B Treaty Rights and Food Fights: Eating Local in Indian Country
GNSS 0090C Reproductive Health: Science, Politics, and the Media
GNSS 0120 Introduction to Gender and Sexuality Studies
HISP 0490A Spanish for Health Care Workers
HISP 0750Q Health, Illness and Medicine in Spanish and Spanish American Literature and Film
HIST 0150H Foods and Drugs in History
HIST 0270B From the Columbian Exchange to Climate Change: Modern Global Environmental History
HIST 0286A History of Medicine I: Medical Traditions in the Old World Before 1700
HIST 0286B History of Medicine II: The Development of Scientific Medicine in Europe and the World
HIST 0537B Tropical Delights: Imagining Brazil in History and Culture
HIST 1080 Humanitarianism and Conflict in Africa
HIST 1830M From Medieval Bedlam to Prozac Nation: Intimate Histories of Psychiatry and Self Change: Modern Global Environmental History
HIST 1960Q Medicine and Public Health in Africa
HIST 1971I Gender, Race, and Medicine in the Americas
LACA 1503V Health of Hispaniola
LITR 1151T Poetry for Healing Territories
PHIL 0060 Modern Science and Human Values
PHIL 0520 Global Justice
TAPS 1281W Arts and Health: Theory
TAPS 1281Z Arts and Health: Practice

Total Credits 12

Honors:

Honors Track, Classes of 2023 & Beyond

For Classes of 2023 & beyond, Honors track students enroll in PHP 1915, Public Health Honors Senior Seminar during Fall semester of their senior year as well as PHP 1980, Honors Thesis Prep during both semesters of their senior year to conduct research and write the honors thesis. Thus, for Classes of 2023 & beyond, fourteen courses are required for completion of the concentration requirements for an honors track student.

Please visit https://www.brown.edu/academics/public-health/undergraduate/curriculum/ for details or email the Director of Undergraduate Studies, Patricia Risica (patricia_risica@brown.edu) for more information.

Study Abroad/Study Away: The best semester to travel abroad/away is Spring of junior year. Courses taken away/abroad will likely NOT count for any of the concentration requirements, however, students can petition to have a course considered. Most do not meet the requirements or do not provide the ability for requirements to be assessed. Meet with concentration advisor and be prepared to provide syllabi for courses being considered for transfer (up to 2 per semester). Permission from concentration advisor is required.

Public Policy

Housed in the Watson Institute for International and Public Affairs, the concentration in public policy is organized around the interdisciplinary and comparative study of human societies, but with a particular focus on the rules and norms by which we govern ourselves. The concentration is grounded in the analysis of pressing social problems and the design, implementation, and evaluation of better policies and practices. This commitment to using knowledge to improve the life chances of people who occupy different positions of wealth and power, and who have competing and contentious ideas of about the common good, makes public policy a value-laden and political enterprise that is as much an art as it is a science. It is also a team sport that requires players with different skills and talents to work together across a wide variety of settings.

Students will learn how social, economic, and political issues become the object of public policy, how policy decisions are crafted, made and implemented, as well as different strategies for evaluating their impact. The concentration draws its instructors from a wide variety of disciplines and offers students opportunities for engaged scholarship at the local, national, and global levels. With the support of the advisory team, students develop their own curriculum of study, integrating core courses with electives, internships, independent research, and a capstone experience. The Public Policy concentration will only accept new declarations through the class of 2023. Students in any class year can learn more about the new concentration (https://watson.brown.edu/iapa/about/faqs/) in International and Public Affairs: Policy and Governance Track.

Required Courses: 10 courses + capstone

The Public Policy concentration will be available to students graduating through the class of 2023.

Core Courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IAPA 0110</td>
<td>Introduction to Public Policy</td>
<td>1</td>
</tr>
<tr>
<td>ETHS 1050</td>
<td>Ethics and Public Policy</td>
<td>1</td>
</tr>
<tr>
<td>ECON 1110</td>
<td>Economics for Public Policy</td>
<td>1</td>
</tr>
<tr>
<td>ECON 1620</td>
<td>Intermediate Microeconomics</td>
<td>1</td>
</tr>
<tr>
<td>ENVS 1350</td>
<td>Environmental Economics and Policy</td>
<td>1</td>
</tr>
<tr>
<td>STS 1700C</td>
<td>Science and Technology Policy in the Global South</td>
<td>1</td>
</tr>
<tr>
<td>IAPA 1700A</td>
<td>Program Evaluation</td>
<td>1</td>
</tr>
</tbody>
</table>

Elective Courses: 1, 2

Three Broad Elective Courses: May be taken in any policy area 3

Two more electives in one of the areas you have already studied 2

Sample electives may include the following:

Health Policy

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHP 1100</td>
<td>Comparative Health Care Systems</td>
</tr>
<tr>
<td>IAPA 1804E</td>
<td>Health Policy Challenges</td>
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</tbody>
</table>

Technology Policy

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>CSCI 1800</td>
<td>Cybersecurity and International Relations</td>
</tr>
<tr>
<td>POLS 1822X</td>
<td>Technology and International Politics</td>
</tr>
<tr>
<td>STS 1700C</td>
<td>Science and Technology Policy in the Global South</td>
</tr>
</tbody>
</table>

Environmental Policy

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENVS 1350</td>
<td>Environmental Economics and Policy</td>
</tr>
<tr>
<td>ENVS 1410</td>
<td>Environmental Law and Policy</td>
</tr>
<tr>
<td>ENVS 1530</td>
<td>From Locke to Deep Ecology: Property Rights and Environmental Policy</td>
</tr>
<tr>
<td>ENVS 1555</td>
<td>Local Food Systems and Urban Agriculture</td>
</tr>
<tr>
<td>PHP 1700</td>
<td>Current Topics in Environmental Health</td>
</tr>
</tbody>
</table>

Governance, Law, and Ethics

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>POLS 0220</td>
<td>City Politics</td>
</tr>
<tr>
<td>POLS 1010</td>
<td>Topics in American Constitutional Law</td>
</tr>
</tbody>
</table>

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
1. Basic Requirement
   A concentration in Religious Studies includes a minimum of nine semester-long courses. Those nine courses include RELS 1000 (a seminar in theories and methods in the study of religion), RELS 1995 (the senior capstone seminar) and seven other concentration courses, which must satisfy the concentration's distribution requirements. Students who transfer to Brown or study abroad must complete at least five courses in Religious Studies at Brown.

2. Distribution of Introductory, Intermediate, and Advanced courses:
   Among the seven concentration courses, no more than four courses can be at the introductory level (0001-0199). The plan of study must include at least two advanced-level courses (above 1000), in addition to RELS 1000 and RELS 1995.

3. Distribution of Focus and Approach:
   Concentrators are encouraged to develop a broad understanding of religious activity as well as a deep understanding of particular forms of religion. A concentrator's course plan should include courses that examine a variety of geographic and cultural contexts, through a variety of approaches. The seven concentration courses (that is, the courses other than RELS 1000 and RELS 1995) must:
   1. examine more than one religious tradition or culture;
   2. reflect more than one primary approach to the study of religion (e.g., philosophical, historical, textual);
   3. include at least one course designated as examining Race, Power, and Privilege (RPP). The RPP curricular program highlights courses that examine issues such as structural inequality, racial formations, disparities of power, and autocritique of academic disciplines. In addition to RELS 1000, many Religious Studies courses bear this designation.

To help students create a program of study that balances breadth of focus and approach with attention to the concentrator's particular interests and objectives, concentrators will meet with the Director of Undergraduate Studies (or an approved advisor from within the department) when declaring the concentration to discuss their intellectual priorities and provisional course plans. (In the concentration declaration form, concentrators will describe their priorities and plans.) Through these initial discussions as well as advising meetings in subsequent semesters, concentrators and their advisors will work together to recognize and cultivate each concentrator's theoretical, interpretive, or thematic interests.

4. Courses in Other Departments
   Courses cross-listed from other departments and courses listed in other departments also count toward the program's requirements. Courses taken at other institutions also count toward the program (pending approval by the DUS) if relevant to the student's program of study. Students who transfer to Brown, study abroad, or otherwise petition to include Brown courses not cross-listed with Religious Studies must complete at least five courses in Religious Studies at Brown.

5. Capstone Project
   In the final year of study, all concentrators enroll in the department's Senior Capstone Seminar. Concentrators undertake a capstone project that builds upon a student's previous work in the department and provides a culminating focus for a student's concentration. In extenuating circumstances, a student may petition the DUS to fulfill the capstone within an existing course (subject to approval by its instructor) or an independent study; a concentrator must still enroll in at least nine courses total. Concentrators also may satisfy the capstone requirement by undertaking an honors thesis. Whichever context concentrators choose to complete their capstone within, they will develop a plan for their project no later than the end of the spring semester of the junior year, in consultation with the Director of Undergraduate Studies and other faculty as appropriate.

Honors Thesis (Optional)
   A thesis is an opportunity for students to conduct extended independent research under the guidance of faculty. If a student chooses to write an honors thesis, in addition to completing the typical seven concentration courses (in addition to RELS 1000) the student will enroll in RELS 1995 during Fall and RELS 1999 during Spring semester of the senior year. Whether or not a student receives honors, RELS 1995 will serve as the student's capstone course. To be eligible to write a thesis, a student must have earned a grade point average of greater than 3.5 (A=4, B=3, C=2) on courses that count toward the concentration. Additionally, to be eligible for honors, concentrators may take no more than two of the concentration courses with the "S/NC" option, after declaring a Religious Studies concentration. (Note: if a student is philosophically committed to taking the majority of her or his courses at Brown as "S/NC," that student may petition the Department to waive this "S/NCS" limit.) Writing the thesis is a necessary, but not sufficient, condition for receiving Honors. In order to receive Honors, the student's thesis must earn an A from its two readers, and the student must have earned a grade point average of greater than 3.5 in the concentration and satisfied all other concentration requirements.

Jason Protass, Director of Undergraduate Studies
Tina Creamer, Departmental Administrator

Science, Technology, and Society
   Science, Technology, and Society (STS, formerly Science and Society) is an interdisciplinary concentration that examines the processes of scientific
discovery and the establishment of scientific policies and systems of belief from historical, philosophical, anthropological, and sociological perspectives. Concentrators analyze the practices, norms, and values that reflect and shape our deepest convictions about what is considered "science." Students select courses in the physical sciences, life sciences, or mathematics and choose a thematic track that may include the history and philosophy of science; gender and science; race, science and ethnicity; health and medicine; environment and society; or they may create their own independent focus. STS prepares students to follow, guide, and shape scientific knowledge as it travels from the laboratory into the public arena.

Requirements
Consisting of 12 courses, the program of study outlined below will be developed by each student in consultation with the concentration advisor. Where appropriate, independent reading, lab courses or GISPS may count for up to three of the twelve total courses. Students will take a minimum of 7 intermediate to advanced courses.

Required Courses (2)
The concentration has two required courses.
• STS 1000: Introduction to Science and Society: Theories and Controversies, or equivalent introductory course: usually taken in the second or third year.
• STS 1900: Senior Seminar in Science and Society, also open to non-majors with the proper background, usually taken senior year.

Thematic Track (3)
Students will organize their course of study around the choice of a thematic track. The theme may be thought of as the applied content portion of the concentration. Students will take a minimum of three courses, at least one of which must be at an advanced level, in one of the thematic areas listed below:
• History & Philosophy of Science
• Gender & Science
• Race, Science & Ethnicity
• Health & Medicine
• Representing Science in Literature & Culture
• Policy, Persuasion & the Rhetoric of Science
• Environment & Society
• Independent Focus

Science Track (4)
Students will take a minimum of four courses in one of the following scientific areas: physical sciences, life sciences, mathematics/computer science. The chosen area should provide appropriate background and support for the chosen concentration theme. The science courses will be sequenced such that a concentrator will move enough beyond the introductory level to gain some understanding of the world view of scientists within a chosen field. The particular sequence of courses which best meets the science requirement will be chosen in consultation with the concentration advisor. When necessary, the concentration advisor will seek guidance from faculty within the chosen scientific field.

Science and Technology Studies Theory (3)
Students will take three Science and Technology Studies-related courses in the social sciences and humanities. These courses, which will provide critical theoretical background for the study of Science and Society, should address questions of historiography, epistemology and methodology in the field of science and technology studies. A full list of such courses and sample concentrations may be found at https://www.brown.edu/academics/science-and-technology-studies/

Honors
To qualify for Honors a student must:
• Be in good standing
• Have completed at least two thirds of the concentration requirements by the application deadline
• Have earned a majority of "A" grades in the concentration. Classes taken S/NC will count as qualifying towards that majority if they are marked "S with distinction" or are accompanied by a Course Performance Report (https://ask.brown.edu/performance_reports/) indicating that had the student taken the course for a grade, the grade would have been an "A."

Slavic Studies
Slavic Studies is concerned with the languages, literatures, and civilizations of the Slavic world. Built on sound knowledge of one or two Slavic languages, the program allows students to develop an in-depth appreciation and understanding of Eastern European cultures and civilizations through a broad spectrum of interdisciplinary fields. Students take courses in literature, history, culture, theater, political science, economics, and international relations. Concentrators focusing on Russia learn one of the world’s most commonly spoken languages and study some of the world’s best-regarded authors, such as Tolstoy, Dostoevsky, Gogol, and Chekhov. Courses in film, literature, and the visual arts introduce students to the historical and social contexts of Russia in the 20th and 21st centuries. Students can enhance their study of Czech or Polish through courses on literature, film, and history, thereby gaining an understanding of the unique histories and cultures of the East Central European Slavic countries. Most concentrators study abroad in a Slavic country, either during the academic year or the summer.

Requirements for the AB Degree
Six semesters of one Slavic language or the equivalent, or a combined total of eight semesters of two Slavic languages or the equivalent.

<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>RUSS 0100 &amp; RUSS 0110</td>
<td>Introductory Russian or Intensive Russian</td>
</tr>
<tr>
<td>RUSS 0300 &amp; RUSS 0400</td>
<td>Intermediate Russian and Advanced Russian</td>
</tr>
<tr>
<td>RUSS 0500 &amp; RUSS 0600</td>
<td>Advanced Russian and Advanced Russian</td>
</tr>
</tbody>
</table>

In cases where a student’s interests and course of study warrant it, and only upon consulting the concentration advisor, the student may apply more than one Slavic language to the concentration (Czech or Polish in addition to Russian), and would then need a combined total of eight semesters of two Slavic languages:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CZCH 0100 &amp; CZCH 0200</td>
<td>Introductory Czech and Introductory Czech</td>
</tr>
<tr>
<td>CZCH 0400 &amp; RUSS 0300</td>
<td>Intermediate Czech and Intermediate Russian</td>
</tr>
<tr>
<td>PLSH 0100 &amp; PLSH 0200</td>
<td>Introductory Polish and Introductory Polish</td>
</tr>
<tr>
<td>PLSH 0300 &amp; PLSH 0400</td>
<td>Intermediate Polish and Intermediate Polish</td>
</tr>
</tbody>
</table>

The concentration in Slavic Studies requires students to complete a minimum of seven 1000-level courses devoted to the study of the Eastern European civilizations: literature, history, culture, theater, political science, economics, international relations. Typically, at least four of these courses will be from within the Department of Slavic Studies. Students’ choice of courses is subject to the approval of the concentration advisor.

Courses in the Department of Slavic Studies:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CZCH 1000</td>
<td>Dimensions of Czech Animation: Contexts, Interpretations, and Dialogs with the East</td>
</tr>
<tr>
<td>RUSS 1110</td>
<td>Special Topics in Russian Studies I: Advanced Reading and Conversation</td>
</tr>
<tr>
<td>RUSS 1120</td>
<td>Special Topics in Russian Studies II: Advanced Reading and Conversation</td>
</tr>
<tr>
<td>RUSS 1200</td>
<td>Russian Fantasy and Science Fiction</td>
</tr>
<tr>
<td>RUSS 1220</td>
<td>Nationalism and Nationalities</td>
</tr>
<tr>
<td>RUSS 1250</td>
<td>Russian Cinema</td>
</tr>
</tbody>
</table>

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
RUSS 1290 | Russian Literature in Translation I: Pushkin to Dostoevsky
RUSS 1300 | Russian Literature in Translation II: Tolstoy to Solzhenitsyn
RUSS 1330 | Soviet Culture: Propaganda, Dissidence, Underground
RUSS 1340 | The Russian Novel
RUSS 1440 | Imagining Moscow: Utopia and Urban Spaces in 20th-Century Russian Culture
RUSS 1450 | Love, Adultery, and Sexuality
RUSS 1500 | Approaches to Russian Literature
RUSS 1550 | Beyond the Kremlin: Russian Culture and Politics in the Twenty-First Century
RUSS 1600 | Literature and History: Russian Historical Imagination in the European Context
RUSS 1660 | Sexuality and Revolution in 20th-Century Russian Culture
RUSS 1800 | Pushkin
RUSS 1810 | Tolstoy
RUSS 1820 | Dostoevsky
RUSS 1840 | Nabokov
RUSS 1860 | Chekhov
RUSS 1848 | Central Europe: An Idea and its Literature
RUSS 1870 | Gogol
RUSS 1967 | Russian Postmodernism
SLAV 1250 | Polish Culture Through Film
SLAV 1300 | Sociolinguistics (with Case Studies on the Former USSR and Eastern Europe)

Sample courses in other departments:

HIST 1268A | The Rise of the Russian Empire
HIST 1268B | Russia in the Era of Reforms, Revolutions, and World Wars
HIST 1268C | The Collapse of Socialism and the Rise of New Russia

or APMA 0650 | Essential Statistics
or ECON 1620 | Introduction to Econometrics
SOC 1020 | Methods of Social Research
SOC 2010 | Multivariate Statistical Methods I
SOC 1010 | Classical Sociological Theory
SOC 1950 | Senior Seminar

Three (3) substantive or theory courses (non-methodological courses) in Sociology, two (2) of which must be at the 1000-level or above.

Three (3) of the following advanced analysis courses:

SOC 1117 | Focus Groups for Market and Social Research
SOC 1118 | Context Research for Innovation
SOC 1120 | Market and Social Surveys
SOC 1260 | Market Research in Public and Private Sectors
SOC 1340 | Principles and Methods of Geographic Information Systems
SOC 2020 | Multivariate Statistical Methods II
SOC 2210 | Qualitative Methods
SOC 2230 | Techniques of Demographic Analysis
SOC 2240 | Event History Analysis
SOC 2610 | Spatial Thinking in Social Science
SOC 2612 | Geographic Information Systems and Spatial Analysis for the Social Sciences
SOC 2960G | Spatial Data Analysis Techniques in the Social Sciences
SOC 2960Y | Causal Analysis
SOC 2961A | Advanced Spatial Data Analysis Techniques in the Social Sciences

Research experience (1 course) 0-1

A one-semester research internship (not for credit or for credit as SOC 1970 - Independent Study), or a summer research internship (not for credit).

Total Credits 12-13

Honors

Honors candidacy in Slavic studies assumes an excellent academic record, particularly in the concentration. Additional requirements are the same as those for a standard concentration, plus the writing of a senior thesis (SLAV 1990). For procedures and schedule for writing a senior thesis, please refer to the department guidelines.

Social Analysis and Research

The Sc.B. concentration in Social Analysis and Research provides both a conceptual and a working knowledge of the techniques for data collection and analysis used for social research in academic and non-academic environments. The centerpiece of the concentration is a rigorous and comprehensive collection of courses: (1) that develop an understanding of the principles underlying the processes of data collection and analysis; and (2) that train students in the application of advanced statistical techniques for data description and analysis. The concepts and skills learned in these courses are reinforced through engagement in applied research with Sociology faculty and/or internships with local organizations in the for profit and not-for-profit sectors. Concentrators also take courses that provide grounding in the theoretical approaches to social phenomena that are foundational to social research. Graduates develop an understanding of the concepts and processes that underlie the issues studied by sociologists and the analytic techniques that allow sociologists to understand social relations and individual behavior.

Standard program for the Sc.B. degree

Required core:

MATH 0090 | Single Variable Calculus, Part I
SOC 1100 | Introductory Statistics for Social Research

Organizational Studies Track requirements

Required core:

MATH 0090 | Single Variable Calculus, Part I
SOC 1010 | Classical Sociological Theory
SOC 1020 | Methods of Social Research
SOC 1100 | Introductory Statistics for Social Research
or APMA 0650 | Essential Statistics
or ECON 1620 | Introduction to Econometrics

SOC 1950 | Senior Seminar
SOC 2010 | Multivariate Statistical Methods I

Any combination of two (2) courses from below:

SOC 0300 | Organizations and Society
SOC 1311 | Micro-Organizational Theory: Social Behavior in Organizations
SOC 1315 | Macro-Organizational Theory: Organizations in Social Context

One (1) Advanced Organizational Studies Elective:

SOC 1060 | Leadership in Organizations
SOC 1070 | Introduction to Economic Sociology

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Students may receive academic credit for academic research internships and off-campus internships completed during the academic year if they combine the internship experience with an academic component under the direction of a faculty advisor. Students taking an internship for credit should register for an Individual Research Project (SOC 1970).

**Senior Seminar SOC 1950**

Social Analysis and Research (Sociology) requires all concentrators to complete a thesis or capstone project in their senior year. The purpose of the thesis or capstone project is to allow students an opportunity to apply the knowledge they acquired through the concentration curriculum on a topic of their own interests. (Students in the Organizational Studies track are expected to focus their senior thesis or capstone project on an Organizational Studies topic.) To fulfill this requirement students enroll in SOC 1950 – Senior Seminar. Participation in this seminar allows each cohort of concentrators to discuss their diverse interests and expose students to the wide range of applications of Sociological knowledge.

A senior thesis must ask an original research question, answer it with appropriate evidence, and place that work within relevant scholarly literature in Sociology. The thesis is supervised by a faculty member who serves as the primary advisor and one additional faculty member who serves as a reader. By the end of the sixth semester, students must submit a prospectus for the senior thesis (not more than four pages) accompanied by the signature of one faculty member indicating that he or she is willing to serve as the primary advisor on the thesis to the Director of Undergraduate Studies in their concentration. Only a senior thesis qualifies the student for Honors.

A capstone project is an independent, student-initiated project or experience developed during the Senior Seminar (SOC 1950) that connects in a meaningful way to learning in the concentration. A capstone project differs from a thesis in its scholarly content and form, and it depends only on the evaluation of the senior seminar instructor. Whereas the senior thesis follows the form of a conventional research paper, the capstone project allows a wider array of research and creative outputs, including but not limited to video documentaries, photographic exhibitions, and applied or policy-related reports for an off-campus organization. Projects are complemented by a poster presentation, literature review, and report that situates the central subject matter of the project within the context of sociological scholarship.

**Independent Study**

Students can use no more than one (1) Independent Study course (SOC 1970) to meet the concentration course requirements. This course counts towards a 1000-level substantive requirement and will not serve as a substitute for any of the core concentration requirements.

**Honors**

In order to be considered for honors, students must (1) be in good standing with the College, (2) have completed at least half of the concentration coursework, and have earned a majority of “A” grades in the concentration. Honors also require a senior thesis, with a recommendation of Honors by the advisor and reader, that demonstrates an understanding of empirical research.

**Sociology**

The concentration in Sociology (leading to a Bachelor of Arts) provides a foundation in sociological theory and methods and the opportunity to cultivate more specialized knowledge in the discipline’s substantive interests. Students develop that focus through their coursework, taking courses in diverse areas such as social inequality, family and gender, organizations, environmental sociology, race and ethnicity and globalization. Students refine their interests during the senior seminar and through their completion of a senior thesis or capstone project. The concentration also allows students to pursue the Engaged Scholars Program (https://www.brown.edu/academics/college/special-programs/public-service/engaged-scholars-program) (ESP). ESP is for students...
with an interest in making deeper connections between their concentration and long-term community-engaged activities such as internships, public service, and many other possible forms of community involvement.

**Standard program for the A.B. degree**

Ten courses are required to complete the concentration.

<table>
<thead>
<tr>
<th>Required core:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SOC 0010 Social Forces: An Introduction to Sociology</td>
<td>1</td>
</tr>
<tr>
<td>SOC 1010 Classical Sociological Theory</td>
<td>1</td>
</tr>
<tr>
<td>SOC 1020 Methods of Social Research</td>
<td>1</td>
</tr>
<tr>
<td>SOC 1100 Introductory Statistics for Social Research</td>
<td>1</td>
</tr>
<tr>
<td>or APMA 0650 Essential Statistics</td>
<td>1</td>
</tr>
<tr>
<td>or ECON 1620 Introduction to Econometrics</td>
<td>1</td>
</tr>
<tr>
<td>or CLPS 0900 Statistical Methods</td>
<td>1</td>
</tr>
<tr>
<td>SOC 1950 Senior Seminar</td>
<td>1</td>
</tr>
</tbody>
</table>

Five (5) additional courses: 5

- a) At least three of the optional courses have to be 1000 level and one of them must be a substantive seminar (1870-1873).
- b) Students can choose to take up to two lower level (0100 level) courses.
- c) Students can petition to take two courses outside of the discipline (this will be allowed only when the proposed course makes sense given the interests of the student, and there is no equivalent sociology course).

Total Credits 10

**Organizational Studies Track**

Ten courses to complete the concentration

<table>
<thead>
<tr>
<th>Required Core:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SOC 0010 Social Forces: An Introduction to Sociology</td>
<td>1</td>
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<tr>
<td>SOC 1010 Classical Sociological Theory</td>
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</tr>
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</tr>
<tr>
<td>or CLPS 0900 Statistical Methods</td>
<td>1</td>
</tr>
<tr>
<td>SOC 1950 Senior Seminar</td>
<td>1</td>
</tr>
</tbody>
</table>

**Foundations of Organizational Studies (choose two of the following):**

| 2 |
| SOC 0300 Organizations and Society | 1 |
| SOC 1311 Micro-Organizational Theory: Social Behavior in Organizations | 1 |
| SOC 1315 Macro-Organizational Theory: Organizations in Social Context | 1 |

**Advanced Organizational Studies Course (choose one course). The following are approved EXAMPLES. Please consult Courses@Brown/Concentration Advisor for current offerings.**

| 1 |
| SOC 1060 Leadership in Organizations | 1 |
| SOC 1070 Introduction to Economic Sociology | 1 |
| SOC 1115 The Enlightened Entrepreneur: Changemakers, Inspired Protagonists and Unreasonable People | 1 |
| SOC 1117 Focus Groups for Market and Social Research | 1 |
| SOC 1118 Context Research for Innovation | 1 |
| SOC 1120 Market and Social Surveys | 1 |
| SOC 1220 Future of Work | 1 |
| SOC 1260 Market Research in Public and Private Sectors | 1 |

**SOC 1311** Micro-Organizational Theory: Social Behavior in Organizations (If not used to meet the "Foundations" requirement, above)

**SOC 1315** Macro-Organizational Theory: Organizations in Social Context (If not used to meet the "Foundations" requirement, above)

**SOC 1870A** Investing in Social Change

**SOC 1870L** The Economic Foundations of Everyday Life

**SOC 1871C** Sociology of the Legal Profession

**SOC 1871O** Law, Innovation and Entrepreneurship

**SOC 1872B** Sociology of Money

**SOC 1872H** Sociology of FIRE: Finance, Insurance, + Real Estate

**Two (2) additional courses. Each of these courses must be either (a) offered by the Department of Sociology, or (b) drawn from the following list of interdisciplinary "Organization-Relevant Electives:"

| 2 |
| AMST 1610A American Advertising: History and Consequences | 1 |
| CLPS 1250 Human Factors | 1 |
| CLPS 1470 Mechanisms of Motivated Decision Making | 1 |
| CLPS 1730 Psychology in Business and Economics | 1 |
| ECON 0110 Principles of Economics | 1 |
| ECON 1760 Financial Institutions | 1 |
| ETHN 1890C Business, Culture, and Globalization: An Ethnographic Perspective | 1 |
| ENGN 1930S Land Use and Built Environment: An Entrepreneurial View | 1 |
| HIST 0150A History of Capitalism | 1 |
| PHIL 1610 Decision Theory: Foundations and Applications | 1 |
| POLS 1150 Prosperity: The Ethics and Economics of Wealth Creation | 1 |
| POLS 1240 Politics, Markets and States in Developing Countries | 1 |
| POLS 1820W Market Liberalism: Origins, Principles and Contemporary Applications | 1 |

Total Credits 10

**Additional Restrictions to the Organizational Studies Track:**

**Lower-level Coursework:** Students may count no more than two 0100-level courses toward the Organizational Studies and Concentration Elective requirements (combined).

**Upper-level Coursework:** At least three of the five courses counted toward the Organizational Studies and Concentration Elective requirements (combined) must be at the 1000-level, and at least one must be a substantive seminar (1870-1873).

**Interdisciplinary Coursework:** Students may petition to count non-Sociology courses beyond the Organization-Relevant Elective list toward the Concentration Elective requirement. This will be allowed only when the proposed course makes sense given the interests of the student, and the Department of Sociology offers no equivalent course.

**The Senior Seminar SOC 1950**

Sociology requires all concentrators to complete a thesis or capstone project in their senior year. The purpose of the thesis or capstone project is to allow students an opportunity to apply the knowledge they acquired through the concentration curriculum on a topic of their own interests. (Students in the Organizational Studies track are expected to focus their senior thesis or capstone project on an Organizational Studies topic.) To fulfill this requirement students enroll in SOC 1950 – Senior Seminar. Participation in this seminar allows each cohort of concentrators

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
to discuss their diverse interests and expose students to the wide range of applications of Sociological knowledge.

A senior thesis must ask an original research question, answer it with appropriate evidence, and place that work within relevant scholarly literature in sociology. The thesis is supervised by a faculty member who serves as the primary advisor and one additional faculty member who serves as a reader. By the end of the sixth semester, students must submit a prospectus for the senior thesis (not more than four pages) accompanied by the signature of one faculty member indicating that he or she is willing to serve as the primary advisor on the thesis to the Director of Undergraduate Studies in their concentration. Only a senior thesis qualifies the student for Honors.

A capstone project is an independent, student-initiated project or experience developed during the Senior Seminar (SOC 1950) that connects in a meaningful way to learning in the concentration. A capstone project differs from a thesis in its scholarly content and form, and it depends only on the evaluation of the senior seminar instructor. Whereas the senior thesis follows the form of a conventional research paper, the capstone project allows a wider array of research and creative outputs, including but not limited to video documentaries, photographic exhibitions, and applied or policy-related reports for an off-campus organization. Projects are complemented by a poster presentation, literature review, and report that situates the central subject matter of the project within the context of sociological scholarship.

**Independent Study**

Students can use no more than one (1) Independent Study course (SOC 1970) to meet the concentration course requirements. This course counts towards a 1000-level substantive requirement and will not serve as a substitute for any of the core concentration requirements.

**Honors**

In order to be considered for honors, students must (1) be in good standing with the College, (2) have completed at least half of the concentration coursework, and have earned a majority of “A” grades in the concentration. Honors also require a senior thesis, with a recommendation of Honors by the advisor and reader, that demonstrates an understanding of empirical research.

**South Asian Studies**

South Asian Studies is an interdisciplinary concentration in which students work across the humanities and social sciences, geographical locations, and time periods. The concentration emphasizes both the diversity of South Asia as a region, as well as the long-term historical connections among people and places in Pakistan, Nepal, Bhutan, India, Bangladesh, and Sri Lanka. The concentration takes a comparative approach, bringing attention to history, politics, and culture within the region, as well as in the equally vital global South Asian diaspora.

**Course Requirements**

All South Asian Studies concentrators must take and pass 10 courses as approved by their concentration advisor. Students who wish to earn honors must take 12 courses total (see Senior-Year Project below).

| SAST 0700 | Introduction to Modern South Asia |
| or HIST 1620 | Resisting Empire: Gandhi and the Making of Modern South Asia |

**Two courses in the Humanities with a majority focus in South Asia, such as: 2**

| CLAS 0995 | India’s Classical Performing Arts |
| CLAS 1140 | Classical Philosophy of India |
| COST 0030 | Sound, Song and Salvation in South Asia |
| COST 0034 | Dharma: A History of Classical Indian Civilization |
| COST 0035 | Saints and Mystics of India |
| COST 0036 | Love and War in India |
| COST 0037 | Sensing the Sacred: Sensory Culture in South Asian Religions |
| COST 0140 | Food, Religion and Politics in South Asia |
| COST 0145 | Karma, Rebirth and Liberation: Life and Death in South Asian Religions |
| COST 0525 | The History and Practice of Yoga in India and Beyond |
| COST 0526 | This Whole World is OM: Mantras in Indian Religions |
| HIAA 0013 | Introduction to Indian Art |
| HIAA 0023 | South Asian Art and Architecture |
| LITR 1231K | Innovations in Indian Literature |
| RELS 0096 | The Imaginary Lives of Muslims |
| RELS 1510 | Islam in South Asia |
| RELS 0036 | Love and War in India |
| RELS 0037 | Sensing the Sacred: Sensory Culture in South Asian Religions |
| RELS 0526 | This Whole World is OM: Mantras in Indian Religions |

**Two courses in the Social Sciences with a majority focus on South Asia, such as:**

| HIST 1979D | Ruined History: Visual and Material Culture in South Asia |
| POLS 1280 | Politics, Economy and Society in India |
| POLS 1821O | Politics of Economic Development in Asia |
| POLS 2320 | Ethnic Conflict |
| POLS 2330 | Politics in India |
| SAST 0750 | Understanding the Indian Economy |
| SAST 0725 | Political Ecology in South Asia |
| SAST 0526 | This Whole World is OM: Mantras in Indian Religions |
| SAST 0525 | The History and Practice of Yoga in India and Beyond |
| SAST 0140 | Food, Religion and Politics in South Asia |
| SAST 0037 | Sensing the Sacred: Sensory Culture in South Asian Religions |
| SAST 0034 | Dharma: A History of Classical Indian Civilization |

At least five additional elective courses. Students can take additional courses in the humanities or social sciences with a focus on South Asia, such as:

- At least three of the five electives must be drawn from the department pre-approved course listings (or be approved by the DUS/Concentration advisor). The courses on this pre-approved list have significant (at least 25%) South Asia content.
- No more than two of the remaining electives can be courses with less empirical South Asia content, but these courses must have theoretical relevance to the study of South Asia (with the approval from the DUS).

| ANTH 0100 | Introduction to Cultural Anthropology |
| ANTH 2320 | Anthropology and Development: Critical Ethnographic Perspectives |
| COST 0032 | Music and Meditation |
| COST 0100 | Introduction to Contemplative Studies |
| ECON 0510 | Development and the International Economy |
| ECON 1530 | Health, Hunger and the Household in Developing Countries |
| ECON 2510 | Economic Development I |
| HIAA 0081 | Architecture of the House Through Space and Time |
| HIST 0150D | Refugees: A Twentieth-Century History |
| HIST 1440 | The Ottomans: Faith, Law, Empire |
| HINDI 0200 | Beginning Hindi or Urdu |

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Students may graduate with Honors in South Asian Studies by completing an undergraduate Honors thesis under the supervision of at least one reader drawn from the South Asian Studies faculty* and one additional reader from the Brown (or RISD, in the case of Brown-RISD students) faculty community. 

In order to pursue Honors, students must submit the following materials to the South Asian studies Director of Undergraduate Studies (DUS) by the end of their 6th semester:

1. A prospectus (3-5 pages, describing the major research questions and methods to be used, complete with bibliography) that has been read and vetted by the student's intended primary reader.
2. An email from the faculty member who will serve as primary reader to the South Asian Studies DUS noting their willingness to advise the thesis.

In addition, students must:
1. Enroll in a two-semester sequence of independent study [SAST 1970 or under a relevant departmental course code].
2. Designate a second reader by the end of the first month of their 7th semester. Second readers should also confirm their willingness to serve as a reader by sending an email to the South Asian Studies DUS.
3. Be in regular contact with thesis advisor about the progress of the project.
4. Present their research to the Saxena Center community during their final semester.

For mid-year graduating students, the topic and primary reader must be identified and confirmed by mid-November of the junior year, and a second reader must be arranged and confirmed by January 30 of the senior year.

* This includes all people listed under the Faculty, Postdoctoral Associate, and Visiting Scholars (limited to those in residence at Brown) tabs on the Saxena Center website.

Statistics

The Bachelor of Science degree in Statistics is designed to provide foundations that include basic statistical concepts and methodologies, and to expose students to the role of statistical thinking and analysis in interdisciplinary research and in the public sphere. To ensure deep rigorous understanding of the foundations and main methods of analysis in statistics, the program is composed of three parts: a) foundations in mathematics and computing, combined with an introduction to statistical thinking and practice; b) four core courses on the fundamentals of statistical theory and data analysis; and c) more advanced material covering important areas of statistical methodology. A capstone project involving substantial data analysis or focused on methodology/theory is required. Students also have opportunities to acquire practical experience in study design, data management, and statistical analysis by working as undergraduate research assistants in projects in one of the participating academic departments or Research Centers at Brown.

The Concentration is based on several premises: that statistics is a scientific discipline in its own right, with specialized methodologies and body of knowledge; that it is essentially concerned with the art and science of data analysis; and that it is best taught in conjunction with specific, substantive applications. To this end, the Concentration is designed to provide foundations that include basic statistical concepts and methodologies, and to expose students to the role of statistical thinking and analysis in interdisciplinary research and in the public sphere. The Concentration prepares students for careers in industry and government, for graduate study in biostatistics and other sciences, as well as for professional study in law, medicine, business, or public administration. The undergraduate concentration guide is available here (https://www.brown.edu/academics/public-health/biostatistics/undergraduate-statistics-concentration/).

The Undergraduate Concentration in Statistics is administered by the Department of Biostatistics and leads to a Sc.B. degree. To ensure deep rigorous understanding of the foundations and main methods of analysis in statistics, the program is composed of three parts. The first part entails foundations in mathematics and computing, combined
with an introduction to statistical thinking and practice. The second part includes four core courses that provide a comprehensive account of the fundamentals of statistical theory and data analysis. The third part delves into more advanced material covering important areas of statistical methodology. In addition to the formal coursework, students are required to complete a capstone project that involves a substantial data analysis or a methodological/theoretical project. Students also have opportunities to acquire practical experience in study design, data management, and statistical analysis by working as undergraduate research assistants in projects in one of the participating academic Departments or Research Centers at Brown.

The program requires thirteen one-semester courses. The required courses are as follows:

**LEVEL I: Foundations in Mathematics - Calculus**
- MATH 0100 Single Variable Calculus, Part II
- MATH 0180 Multivariable Calculus

**LEVEL I - Foundations in Mathematics - Linear Algebra**
- MATH 0520 Linear Algebra

**Computing**
- APMA 0160 Introduction to Scientific Computing
- or CSCI 0040 Introduction to Scientific Computing and Problem Solving

**Introduction to Statistical Thinking and Practice**
- PHP 1501 Essentials of Data Analysis

With the approval of the Director of the Statistics Concentration, one of the following courses may serve as replacement:
- SOC 1100 Introductory Statistics for Social Research
- ECON 1620 Introduction to Econometrics
- APMA 0650 Essential Statistics
- BIOL 0495 Statistical Analysis of Biological Data
- CLPS 0900 Statistical Methods

**LEVEL II - Core Courses in Theory and Data Analysis**
- APMA 1650 Statistical Inference I
- or APMA 1655 Honors Statistical Inference I
- APMA 1660 Statistical Inference II
- OR
- MATH 1610 Probability
- MATH 1620 Mathematical Statistics

**Introduction to Biostatistics**
- PHP 1510 Principles of Biostatistics and Data Analysis
- OR
- PHP 2510 Principles of Biostatistics and Data Analysis

**LEVEL III: Advanced Courses in Statistical Methods**
- PHP 1560 Statistical Programming in R
- OR
- PHP 2560 Statistical Programming with R
- AND
- PHP 1511 Applied Regression Analysis
- OR
- PHP 2511 Applied Regression Analysis

**Capstone Project**
- PHP 1970 Independent Study

**Electives in Social Science and Biostatistics (Students must choose 2)**
- SOC 1120 Market and Social Surveys
- SOC 1340 Principles and Methods of Geographic Information Systems
- SOC 2230 Techniques of Demographic Analysis
- CSCI 1420 Machine Learning

CSCI 1810 Computational Molecular Biology
CSCI 1820 Algorithmic Foundations of Computational Biology
CSCI 1951A Data Science
PHP 0850 Fundamentals of Epidemiology
PHP 2030 Clinical Trials Methodology
PHP 2120 Introduction to Methods in Epidemiologic Research
PHP 2200 Intermediate Methods in Epidemiologic Research
PHP 2515 Fundamentals of Probability and Statistical Inference
PHP 2520 Statistical Inference I
PHP 2530 Bayesian Statistical Methods
PHP 2550 Practical Data Analysis
PHP 2580 Statistical Inference II
PHP 2602 Analysis of Lifetime Data
PHP 2601 Linear Models
PHP 2610 Causal Inference and Missing Data
PHP 2620 Statistical Methods in Bioinformatics, I
APMA 1070 Quantitative Models of Biological Systems
APMA 1080 Inference in Genomics and Molecular Biology
APMA 1200 Operations Research: Probabilistic Models
APMA 1690 Computational Probability and Statistics
APMA 1710 Information Theory
APMA 1740 Recent Applications of Probability and Statistics
APMA 1860 Graphs and Networks
APMA 2610 Recent Applications of Probability and Statistics
ENGN 2520 Pattern Recognition and Machine Learning
CLPS 1292 Introduction to Programming for the Mind, Brain and Behavior
CLPS 1492 Computational Cognitive Neuroscience
ECON 1360 Health Economics
ECON 1630 Mathematical Econometrics I
ECON 1640 Mathematical Econometrics II
ECON 1660 Big Data
MATH 1810A Applied Algebraic Topology
Other Analytical/Computational/Statistical courses with the approval of the Director of the Statistics Concentration

**Total Credits** 13

Prospective students will be able to obtain Advanced Placement credit for the requirements in mathematics. Students who have already completed an introductory course in statistics will be granted permission to proceed to Level II core courses if they meet the prerequisites in mathematics and computing.

**PHP 0100**: As part of the capstone course or thesis, students should complete an online course, PHP 0100, at their own pace. This course is a requirement and is meant to give a broad overview of public health and it allows students to see different areas in public health where statistics is being used. The course does not require any additional credit and is completed as part of the independent study, PHP 1970/1980. Students who are in a double concentration in public health are exempt from this course.

**Senior Thesis**: A senior honors thesis is not a requirement for graduation, but concentrators who choose to write one are required to write a manuscript that describes a major project of statistical data analysis that they performed or a simulation study to evaluate the performance of a statistical method. Students that decide to write an honor thesis will generally integrate their capstone project into their thesis. Generally,
writing a senior thesis includes two semesters of independent study (PHP 1980), the capstone project may serve as one of those.

Honors: Statistics requires the completion of a senior thesis and a superior record in the program.

Study Abroad/Study Away: Up to two courses taken elsewhere (study abroad or other transfer) may be applied to required courses. Meet with a concentration advisor to discuss; provide a syllabus for each course to be considered for transfer to your concentration plan.

The program is administered by the Department of Biostatistics, located at 121 South Main Street, 7th floor.

For additional information please contact: Roe Gutman, Box G-S-121-7; Telephone: 401-863-2682; Fax: 401-863-9182; e-mail: Roe Gutman (rgutman@stat.brown.edu)

Theatre Arts and Performance Studies

The Department of Theatre Arts and Performance Studies (TAPS) is the intellectual and artistic center for the aesthetic, historical, literary, practical, and theoretical explorations of performance in global perspective – theatre, dance, speech, time-based art, and even performative “roles” in everyday life. The TAPS concentration offers three tracks with many points of overlap among them: Performance Studies, Theatre Arts, and Dance. Concentrators gain exposure to a broad spectrum of performance modes and methods – acting, directing, dance, and writing, and chose an avenue of focus among them. In addition, TAPS concentrators with an interest in socially engaged performance that tackles complex social issues may pursue the Engaged Scholars Program (https://www.brown.edu/academics/theatre-arts-performance-studies/undergraduate-program/engaged-scholars-program/). Everyone graduates having studied craft, gained familiarity with history, and investigated the role of performance arts in culture.

Students who declared their concentration prior to fall 2019 please check with your advisor.

Theatre Arts Track

This concentration combines the study of dramatic literature, theatre history, performance theory, and studio work in the various theatre arts. All concentrators in Theatre Arts will gain practical experience through the study of acting and directing as well as in the technical production of plays, preparing students in the practical study of a cross-section of the vital aspects of theatre craft, including one class in either dance or speech. An essential aim of the concentration track is the engagement of students in performance procedures (acting, directing, choreography, design, playwriting, dramaturgy, etc.) in order to experience the inter-relationships among social contexts, dramatic texts and theatrical enactments. Along with practical study in craft, concentrators will graduate having studied theatre history and performance theory in global perspective. The study of theatre history provides a Theatre Arts concentrator with the necessary background to understand a variety of dramatic and theatrical forms. The study of performance theory enhances a student’s ability to ask fundamental questions about the role of theatre in social, political, cultural and cross-cultural arenas.

Students wishing to enroll as concentrators in Theatre Arts and Performance Studies and take the Theatre Arts track should see the undergraduate concentration advisor. Participation in practical classes in modes of performance is also required.

Students wishing to enroll as concentrators in Theatre Arts and Performance Studies and take the Performance Studies track should see the undergraduate Performance Studies track advisor, in order to discuss options that will best serve their interests.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAPS 0700</td>
<td>Introduction to Theatre, Dance and Performance</td>
<td>1</td>
</tr>
<tr>
<td>TAPS 0220</td>
<td>Persuasive Communication</td>
<td>1</td>
</tr>
<tr>
<td>TAPS 0230</td>
<td>Acting</td>
<td>1</td>
</tr>
<tr>
<td>TAPS 0250</td>
<td>Introduction to Technical Theatre and Production</td>
<td>1</td>
</tr>
<tr>
<td>TAPS 1230</td>
<td>Global Theatre and Performance: Paleolithic to the Threshold of Modernity</td>
<td>1</td>
</tr>
</tbody>
</table>

TAPS 1240 Performance Historiography and Theatre History 1
TAPS 1250 Late Modern and Contemporary Theatre and Performance 1

Performance Studies electives: 4 elective courses, one of which must be theory, history, or literature chosen in consultation with the advisor according to the area of interest (i.e., acting, direction, playwriting, design/technical theatre). Additionally, following consultation with the advisor, one of the electives may be taken outside the TAPS department.

Total Credits 10

Performance Studies Track

The Performance Studies track in the Theatre Arts and Performance Studies concentration offers a base for students interested in a variety of performance forms, performance media, or in intermedial art. A concentrator in this track will study the multiple modes in which live performance articulates culture, negotiates difference, constructs identity, and transmits collective historical traditions and memories. Because Performance Studies is not primarily invested in one performance mode over another (such as theatre or dance), a concentrator will gain exposure to a broad spectrum of performance modes. Studying ritual, play, game, festival, spectacle and a broad spectrum of “performance behaviors” under the umbrella of Performance Studies, a concentrator will graduate having investigated the role of performance in culture, including performative acts in everyday life, political enactment, ritual behavior, aesthetic or representational practices, and social role or the performance of subjectivity. The history of aesthetic performance practices (such as the histories of theatre and/or dance) will be an important part of this track, serving to ground inquiry into the broader spectrum of performance study. Students will craft their electives on this track from a wide selection of courses both within the Department of Theatre Arts and Performance Studies and across the university. The study of performance behavior across mediums such as dance, theatre, ritual, and orature allows for geographic and historical flexibility as not all cultures parse theatre from dance, nor, historically, genres of religious or political ritual from genres of entertainment, play, or game. At least one of the ten required classes must show geographic or cultural breadth, and be approved as such by the undergraduate concentration advisor. Participation in practical classes in modes of performance is also required.

Students wishing to enroll as concentrators in Theatre Arts and Performance Studies and take the Performance Studies track should see the undergraduate Performance Studies track advisor, in order to discuss options that will best serve their interests.

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<td>1</td>
</tr>
<tr>
<td>TAPS 1240</td>
<td>Performance Historiography and Theatre History</td>
<td>1</td>
</tr>
<tr>
<td>TAPS 1250</td>
<td>Late Modern and Contemporary Theatre and Performance</td>
<td>1</td>
</tr>
<tr>
<td>TAPS 1280YY</td>
<td>Issues in Performance Studies</td>
<td>1</td>
</tr>
</tbody>
</table>

Two primarily academic courses from within the Department with Performance Studies content to be selected with your advisor, such as (but not limited to):

<table>
<thead>
<tr>
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<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAPS 0210</td>
<td>Dancing the African Diaspora</td>
<td>1</td>
</tr>
<tr>
<td>TAPS 0350</td>
<td>Black Performance Theory</td>
<td>1</td>
</tr>
<tr>
<td>TAPS 1280N</td>
<td>New Theories for a Baroque Stage</td>
<td>1</td>
</tr>
<tr>
<td>TAPS 1380</td>
<td>Mise en Scene</td>
<td>1</td>
</tr>
<tr>
<td>TAPS 1425</td>
<td>Queer Performance</td>
<td>1</td>
</tr>
<tr>
<td>TAPS 1630</td>
<td>Performativity and the Body: Staging Gender, Staging Race</td>
<td>1</td>
</tr>
<tr>
<td>TAPS 1670</td>
<td>Latinx Theatre + Performance</td>
<td>1</td>
</tr>
<tr>
<td>TAPS 1690</td>
<td>Performance, Art, and Everyday Life</td>
<td>1</td>
</tr>
</tbody>
</table>

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
### Dance Track

The Dance track of the Theatre Arts and Performance Studies concentration engages students in the study of dance, movement, and other forms of kinesthetic performance. Emphasizing dance technique, choreography/composition, and theories and histories of global forms of dance practice, concentrators in this track will study how multiple global dance forms articulate culture, negotiate difference, construct identity, and transmit collective historical traditions. Concentrators will receive instruction in composition and technique, and engage with dance, theatre, and performance production within the department to understand dance within a network of performance practices.

#### TAPS Courses

- **TAPS 0700 Introduction to Theatre, Dance and Performance**
- **TAPS 1300 Advanced Set Design**
- **TAPS 0320 Dance Composition**
- **TAPS 1281M Introduction to Costume Construction**
- **TAPS 0330 The Actor's Instrument: Stage Movement and Performance**
- **TAPS 1341 Introduction to Ballet**
- **TAPS 1320 Choreography**
- **TAPS 1281F Introduction to Set Design**
- **TAPS 1310 Advanced Modern Dance**
- **TAPS 1281T Director/Designer Collaborative Studio**
- **TAPS 1341 Intermediate Ballet**
- **TAPS 1425 Queer Performance**
- **TAPS 1290 Intermediate Dance**
- **TAPS 1343 Intermediate Ballet**
- **TAPS 1348 Contemporary Dance Studio Project**
- **TAPS 1344 Advanced Ballet with Repertory**
- **TAPS 1430 Viewpoints Technique: The Moving Body in Relation to Time, Space, and Ensemble**
- **TAPS 1340 Dance Styles**
- **TAPS 1290 Viewpoints Technique: The Moving Body in Relation to Time, Space, and Ensemble**
- **TAPS 0310 Beginning Modern Dance**
- **TAPS 1340 Dance Styles**
- **TAPS 0330 Mande Dance, Music and Culture**
- **TAPS 0930C The Actor's Instrument: Stage Movement for Actors and Directors**
- **MUSC 1971 Digital Media and Virtual Performance**

#### Critical Topics and Global Perspectives - three courses

Students should work with their advisor to ensure their courses offer theoretical and geographic breadth. Courses could include, for example:

- **TAPS 0210 Dancing the African Diaspora**
- **TAPS 1230 Global Theatre and Performance: Paleolithic to the Threshold of Modernity**
- **TAPS 1240 Performance Historiography and Theatre History**
- **TAPS 1250 Late Modern and Contemporary Theatre and Performance**
- **TAPS 1281Q Introduction to Critical Dance Studies**
- **TAPS 1330 Dance History: The 20th Century**
- **TAPS 1425 Queer Performance**
- **TAPS 1630 Performativity and the Body: Staging Gender, Staging Race**

#### Techniques of the Body - two courses selected in consultation with an advisor

- **TAPS 1000 Intermediate Dance**
- **TAPS 1310 Advanced Modern Dance**
- **TAPS 1340 Dance Styles**
- **TAPS 1341 Introduction to Ballet**
- **TAPS 1342 Ballet II**
- **TAPS 1343 Intermediate Ballet**
- **TAPS 1344 Advanced Ballet with Repertory**

#### Design or Production - one course selected in consultation with an advisor from the following:

- **TAPS 0250 Introduction to Technical Theatre and Production**
- **TAPS 0260 Stage Lighting**
- **TAPS 1100 Stage Management**
- **TAPS 1280F Introduction to Set Design**
- **TAPS 1281A Director/Designer Collaborative Studio**

#### Total Credits

- Dance Track: 10 Total Credits

### For all concentrators, regardless of track:

In cases where dual concentrations are declared, the Department allows two courses to be counted toward both concentrations.

### Capstone

Each student will complete a capstone project by the second semester of the senior year. The purpose of this capstone is to synthesize the core tenets of theory and practice in our concentration learning objectives and to reflect on that synthesis. The following projects, completed in semesters 6, 7, and 8, qualify as a capstone:

- A senior slot production and a 5-page capstone reflection
- An honors thesis
- An engaged scholarship project and a 5-page capstone reflection
- Extension of an existing curricular, co-curricular, or extra-curricular project from the junior year or first semester senior year and a 5-page capstone reflection.
- Revision or expansion of an existing final paper from any prior class and a 5-page capstone reflection.
- Major participation in a non-departmental campus production, performance or academic event (i.e., student produced work at PW, etc., an event at the Granoff, etc.) and a 5-page capstone reflection
- The 5-page reflection will contain the following:
  - a brief description of the project completed, including details about who, when, and where the project took place (i.e., which class the paper was originally written for, where the show was produced, how you revised the paper, directed the production, etc.)
  - an examination of how you used knowledge acquired in the concentration conceptualize, do, and complete the project with a frank assessment of the project's success or ways in which it could have been improved. What new skills and research methods were gained and how will they be incorporated into your artistry.
  - The DUS will assess the paper, approving it if all of the criteria above are met. While this is not a formal research paper, the reflection will be assessed for clarity, honesty and depth of self-reflection, and reflection on your experience of the TAPS curriculum.

### Honors

The standard pattern above, plus an honors thesis course taken in Semester VII (TAPS 1990) and VIII. The topic of which would be determined before Semester VII. Candidates for the honors program should have an outstanding academic record and must apply to the Department by April 1 of Semester VI.

Students who know they will be graduating in December should contact the honors advisor in October of Semester VI to arrange an appointment to discuss a schedule for submitting a proposal and taking honors thesis courses in Semesters VII and VIII.

Proposals can be submitted electronically. Honors are awarded for theses in all concentration tracks. All theses are substantive pieces of writing. Some theses are strictly academic. Other honors theses may include a creative component (such as the directing of a play, a solo performance piece, the study and performance of a major role, or the design of a production) but the thesis itself will include a critical, written work based in research relative to that artwork. For creative work submitted for honors,
the essay should accompany the play/performance, reporting on the research and the process of creation although the play/performance itself can count as the substantive written work. Please note that departmental production support is not available for productions at this time. See the Honors Advisor for more information about proposal and thesis guidelines.

### Urban Studies

The Urban Studies program teaches students to analyze the city, urban life, and urbanization through a variety of disciplinary lenses. Students learn where cities come from, how they grow, thrive, and decline, how they are organized, and how to construct meaningful, inclusive, secure, and sustainable places. The curriculum examines how urban problems arise, how they have been previously addressed, and how to plan cities of the future. Concentrators enjoy the breadth of courses in American Studies, economics, history, literature, history of art and architecture, political science, sociology, and planning as well as provide in-depth courses integrating those perspectives. We introduce the fundamentals of Urban Studies scholarship as well as intense examination of an urban problem in focused seminars. These advanced seminars offer opportunities to write extensive and synthetic interdisciplinary analyses that serve as capstones to the concentration. The program’s 10-course curriculum provides sufficient flexibility to allow students to pursue specific urban interests or to take courses in urban focus areas of Built Environment; Humanities; Social Sciences; and Sustainable Urbanism. The Program insures that students master at least one basic research methodology and perform research or fieldwork projects, which may result in an honors thesis. Fieldwork training includes working with local agencies and nonprofit organizations on practical urban problems. Capstone projects entail original research papers in Urban Studies seminars; academically supervised video, artistic, or community service projects; and Honors Theses for eligible concentrators.

Concentrators who are especially interested in making deeper connections between their curriculum and long-term engaged activities such as internships, public service, humanitarian and development work, and many other possible forms of community involvement might consider the Engaged Scholar Program (https://www.brown.edu/academics/urban-studies/curriculum/engaged-scholars-program/) in US. The program combines preparation, experience, and reflection to offer students opportunities to enhance the integration of academic learning and social engagement.

For a concentration, the program requires ten courses selected from four course groups:

**Introduction (choose one):**
- POLS 0220 City Politics
- URBN 0210 The City: An Introduction to Urban Studies
- URBN 0230 Urban Life in Providence: An Introduction

**Research Methods (choose one):**
- APMA 0650 Statistical Inference I
- APMA 1660 Statistical Inference II
- CLPS 0900 Statistical Methods
- ECON 1620 Introduction to Econometrics
- PHP 1501 Essentials of Data Analysis
- POLS 1600 Political Research Methods
- SOC 1020 Methods of Social Research
- SOC 1100 Introductory Statistics for Social Research

**Core Courses (3 courses required, in at least 3 disciplines, such as American studies, anthropology, economics, education, English, history, history of art and architecture, political science, and sociology, as well as urban planning when staffing allows):**
- AMST 1612D Cities of Sound: Place and History in American Pop Music
- ANTH 1201 Introduction to Geographic Information Systems and Spatial Analysis
- ANTH 1236 Urban Life: Anthropology in and of the City
- ANTH 1255 Anthropology of Disasters
- ECON 1410 Urban Economics
- EEPS 1320 Introduction to Geographic Information Systems for Environmental Applications
- ENGL 0700R Modernist Cities
- ENGL 1711D Reading New York
- ENVS 1400 Sustainable Design in the Built Environment
- ENVS 1580 Environmental Stewardship and Resilience in Urban Systems
- HIAA 0100 Introduction to Architectural Design Studio
- HIAA 0710 The Other History of Modern Architecture
- HIAA 0770 Architecture and Urbanism of Africa
- HIAA 0850 Modern Architecture
- HIAA 0860 Contemporary Architecture
- HIAA 0861 City and Cinema
- HIST 1550 American Urban History, 1600-1870
- HIST 1551 American Urban History, 1870-1965 (HIST 1550::American Urban History to 1870)
- POLS 0220 City Politics
- POLS 1310 African American Politics
- SOC 1330 Remaking the City
- SOC 1340 Principles and Methods of Geographic Information Systems
- SOC 1640 Social Exclusion
- URBN 0074 Nineteenth-Century Architecture
- URBN 1000 Fieldwork in the Urban Community
- URBN 1200 The United States Metropolis, 1945-2000
- URBN 1250 The Political Foundations of the City
- URBN 1260 Housing in America
- URBN 1270 Urban Politics and Urban Public Policy

**Seminar courses (choose three)**
- AMST 1903E City of the American Century: The Culture and Politics of Urbanism in Postwar New York City
- HIAA 1850H Berlin: Architecture, Politics and Memory
- HIAA 1910A Providence Architecture
- SOC 0310 Theory and Practice of Engaged Scholarship
- URBN 1870A American Culture and the City
- URBN 1870D Downtown Development
- URBN 1870G Ancient Cities: From the Origins Through Late Antiquity
- URBN 1870I The Changing American City
- URBN 1870J The Politics of Community Organizing
- URBN 1870K Jerusalem Divided: Politics and Cultural Heritage
- URBN 1870M Urban Regimes in the American Republic
- URBN 1870N The Cultural and Social Life of the Built Environment
- URBN 1870Q Cities in Mind: Modern Urban Thought and Theory
- URBN 1870S The City, the River, and the Sea: Social and Environmental Change at the Water’s Edge
- URBN 1870T Transportation: An Urban Planning Perspective
- URBN 1870V City Senses: Urbanism Beyond Visual Spectacle

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
URBN 1870Z Housing Justice
URBN 1871B How to Shape a City: An Introduction to Real Estate Development

Complementary Curriculum (Total of 2 courses required): 2
1. Any course from the Introductory or Core Curriculum options above not used to fulfill another requirement

2. OR Any of the following:

AFRI 0600 Race, Gender, and Urban Politics
AFRI 0620 African-American Life in the City
AMST 1611A Making America: Twentieth-Century U.S. Immigrant/Ethnic Literature
AMST 1903G Oral History and Community Memory
AMST 1904M Charles Chaplin and the Urban Public Health Movement
ANTH 0450 Inequality, Sustainability, and Mobility in a Car-Clogged World
ANTH 1301 Anthropology of Homelessness
ARCH 0317 Heritage in the Metropolis: Remembering and Preserving the Urban Past
ARCH 0400 City and Sanctuary in the Ancient World
ARCH 1150 Cities and Urban Space in the Ancient World
ARCH 1155 Cities, Colonies and Global Networks in the Western Mediterranean
ARCH 1200F City and the Festival: Cult Practices and Architectural Production in the Ancient Near East
ARCH 1600 Archaeologies of the Near East
ARCH 1720 How Houses Build People
ARCH 1900 The Archaeology of College Hill
ECON 1370 Race and Inequality in the United States
ENGL 1710I Harlem Renaissance: The Politics of Culture
ENGN 1930S Land Use and Built Environment: An Entrepreneurial View
ENVS 0520 Wild Literature in the Urban Landscape
ENVS 1410 Environmental Law and Policy
ENVS 1555 Local Food Systems and Urban Agriculture
HIAA 0550 Painters, Builders, and Bankers in Early Modern Italy
HIAA 0560 Constructing the Eternal City: Popes and Pilgrims in Early Modern Rome
HIAA 1560C Renaissance Venice and the Veneto
HIAA 1850G Contemporary American Urbanism: City Design and Planning, 1945-2000
HIST 1140 Samurai and Merchants, Prostitutes and Priests: Japanese Urban Culture in the Early Modern Period
HIST 1741 Capitalism, Land and Water: A World History: 1848 to the present
HIST 1961B Cities and Urban Culture in China
HIST 1967R History of Rio de Janeiro
HIST 1979J London: 1750 to the Present
HIST 1979L Urban History of Latin America
HIST 1980T Modernity, Jews, and Urban Identities in Central Europe (JUDS 1718)
IAPA 1700A Program Evaluation
IAPA 1803E Social Entrepreneurship
ITAL 1580 Word, Image and Power in Early Modern Italy
JAPN 0710 Japanese Cities: Tokyo and Kyoto
JUDS 1718 Modernity, Jews, and Urban Identities in Central Europe
POLS 1760 Infrastructure Policy
POLS 1824D Power and Prosperity in Urban America
RUS 1440 Imagining Moscow: Utopia and Urban Spaces in 20th-Century Russian Culture
STS 1701Q The Fate of the Coast
SOC 0130 American Heritage: Democracy, Inequality, and Public Policy
SOC 1270 Race, Class, and Ethnicity in the Modern World
SOC 1540 Human Needs and Social Services

3. RISD courses approved by the Urban Studies Program each semester as applicable to the Urban Studies concentration.

4. Any course taken at another university in the US or abroad and approved by the Urban Studies Program each semester (2 maximum)

Total Credits 10

1 There are also other statistics courses offered by other departments (e.g., Applied Mathematics, Cognitive Sciences, and Psychology). On occasion, an alternative research skills course may be approved for a specific concentration.

2 The courses provide opportunities to undertake research or fieldwork projects and all qualify as "capstone" experiences.

3 No more than two may be used to satisfy the requirements of this concentration. The RISD course is identified in the student's record at Brown by a RISD course code.

Off-Campus Courses: Some courses taken outside Brown (e.g., in study abroad programs) may be used for credit towards the concentration if the material covered directly corresponds to that taught in Brown courses, or is relevant to the complementary curriculum. Such courses will be approved each semester by the concentration advisor.

Honors

The Urban Studies Honors Program is intended for students who have been highly successful in their Urban Studies concentration coursework and who want the opportunity to pursue a research project in more depth than is possible in an undergraduate seminar. Such a project requires a high degree of initiative and dedication. It also requires significant amounts of time and energy, as well as demonstrative skills in research and writing. Students must apply in the middle of the second semester of their junior year. (This applies to students who will complete the degree requirements in December, as well as May.) The student's honors application must include a brief research proposal, a list of completed urban coursework, and must be signed by a faculty member willing to serve as the student's honors advisor. During the Fall and Spring of the senior year, honors candidates must complete two additional courses beyond the ten courses required for the concentration: URBN 1971 Senior Honors Thesis I in Urban Studies (S/NC) and URBN 1972 Senior Honors Thesis II in Urban Studies (grade). The candidate's final thesis must be of outstanding quality, in order to qualify for honors.

Visual Art

The Visual Art concentration engages in artistic practice across a wide range of media: painting, sculpture, printmaking, drawing, photography, digital imaging, book arts, and film. Courses in art history combine with these to frame the direction of the concentrator's work and to develop their critical thinking skills. Students are encouraged to cultivate an informed and thoughtful individual perspective. Students in the Department of Visual Art enjoy cutting-edge facilities and a knowledgeable faculty. These two resources inspire creativity and pleasure in our concentrators while they

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
explore the discipline. Students acquire the intellectual and practical tools to make art as well as to interpret and critique the world of images. Students also have the opportunity to take courses at the neighboring Rhode Island School of Design (RISD). All Visual Art (VISA) courses are graded S/NC (https://www.brown.edu/academics/college/degree/policies/grade-options/).

Concentration Program Requirements

Concentration Requirements:

<table>
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<tr>
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<tr>
<td>VISA 0100</td>
<td>Studio Foundation (Prerequisite for all upper-level studio courses)</td>
<td>1</td>
</tr>
<tr>
<td>VISA 0120</td>
<td>Foundation Media (This course is a prerequisite for upper-level Media courses such as New Genre and Video Art)</td>
<td>2</td>
</tr>
<tr>
<td>VISA 0130</td>
<td>Sculpture Foundation</td>
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<tr>
<td>VISA 0140</td>
<td>Photography Foundation</td>
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<tr>
<td>VISA 0150</td>
<td>Digital 2D Foundation</td>
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<tr>
<td>VISA 0160</td>
<td>Foundation Painting</td>
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</tbody>
</table>

2 of the following 5 discipline-based foundation courses are required.

5 additional upper level studio courses are required. A minimum of three elective studio courses must be taken in the Brown Visual Art Department.

3 HIAA courses are required:

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>HIAA 0010</td>
<td>A Global History of Art and Architecture</td>
<td>1</td>
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<tr>
<td>HIAA 0801</td>
<td>Art After '68</td>
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<tr>
<td>or HIAA 0810</td>
<td>20th Century Sculpture</td>
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<tr>
<td>or HIAA 0870</td>
<td>20th Century British Art: Edwardian to Contemporary</td>
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</tbody>
</table>

One additional History of Art and Architecture course. 1

Senior Thesis Exhibition: which does not carry academic credit, is required for graduation (usually presented during the seventh or eighth semester).

Total Credits 11

Honors

The project is a two-semester enterprise and counts as two courses taken for graduation credit VISA 1800C (Sem I) and VISA 1990 (Sem II) but will not count as two of the eleven courses needed for the visual art concentration. Students that are planning to complete their degree requirements in December must apply for honors by December 5 of the previous year.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).