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 2020**

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<th>Date</th>
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<tbody>
<tr>
<td>March 30</td>
<td>Registration for Summer courses for continuing Brown undergraduates opens at 9:00 a.m. on Monday.</td>
</tr>
<tr>
<td>Aug 1-4, 2020</td>
<td>Reading period.</td>
</tr>
<tr>
<td>Aug 4, 2020</td>
<td>Last day to drop a course. Last day to initiate a Course Performance Report via ASK.</td>
</tr>
<tr>
<td>Aug 7, 2020</td>
<td>Summer Session ends.</td>
</tr>
<tr>
<td>Aug 8, 2020</td>
<td>Residence halls close.</td>
</tr>
</tbody>
</table>

**Fall 2020**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aug. 1, 2020</td>
<td>Last day for payment of charges.</td>
</tr>
<tr>
<td>Sep. 1, 2020</td>
<td>Beginning of Graduate School Orientation.</td>
</tr>
<tr>
<td>Sep. 4, 2020</td>
<td>Registration of new students for the first semester opens at 4:30 PM through midnight Tuesday.</td>
</tr>
<tr>
<td>Sep. 8, 2020</td>
<td>Opening Convocation at 4:00 p.m.</td>
</tr>
<tr>
<td>Sep. 9, 2020</td>
<td>Classes of the first semester begin.</td>
</tr>
<tr>
<td>Sep. 11, 2020</td>
<td>First day of RISD Fall Session.</td>
</tr>
<tr>
<td>Sep. 16, 2020</td>
<td>Last day to register for a Fall RISD course without a fee or change a grade option for a Fall RISD course - (5:00 p.m. deadline).</td>
</tr>
<tr>
<td>Sept. 22, 2020</td>
<td>Last day to add a course without a fee. (5:00 p.m. 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>Oct. 1, 2020</td>
<td>Deadline for students currently on non-medical leave to apply for readmission.</td>
</tr>
<tr>
<td>Oct. 6, 2020</td>
<td>Last day to add a course (includes late fee), change from audit to credit, or change a grade option declaration (5:00 p.m. deadline).</td>
</tr>
</tbody>
</table>

**Winter 2020**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>Jan. 12, 2020</td>
<td>Break for RISD Winter Session.</td>
</tr>
<tr>
<td>Feb. 20, 2020</td>
<td>Classes resume.</td>
</tr>
</tbody>
</table>

**Spring 2020**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mar. 22, 2020</td>
<td>Final examination period.</td>
</tr>
<tr>
<td>Apr. 3, 2020</td>
<td>Classes resume.</td>
</tr>
<tr>
<td>Apr. 13, 2020</td>
<td>Graduation exercises.</td>
</tr>
</tbody>
</table>

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For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
<table>
<thead>
<tr>
<th>Date</th>
<th>Day</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dec. 5, 2020</td>
<td>Sat.</td>
<td>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, 2020</td>
<td>Fri.</td>
<td>Last day of Fall RISD classes.</td>
</tr>
<tr>
<td>Dec. 7 - 11, 2020</td>
<td>Mon.-Fri.</td>
<td>Reading Period (optional and at the discretion of the instructor.)</td>
</tr>
<tr>
<td>Dec. 11, 2020</td>
<td>Fri.</td>
<td>Classes end for courses not observing the Reading Period. Last day to drop a course (5:00 p.m. deadline) or to request an incomplete from an instructor.</td>
</tr>
<tr>
<td>Dec. 11, 2020</td>
<td>Fri.</td>
<td>UG CONCENTRATIONS: Last day for advisors to approve 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. deadline). Any declarations not advisor approved and recorded in Banner by the Office of the Registrar by the 5:00 p.m. deadline will not be honored. Last day to initiate a Course Performance Report via ASK.</td>
</tr>
<tr>
<td>Dec. 12, 2020</td>
<td>Sat.</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 approved submitted writing in ASK by the last day of the semester.</td>
</tr>
<tr>
<td>Dec. 11 - 21, 2020</td>
<td>Sat.-Mon.</td>
<td>Final Examination Period.</td>
</tr>
<tr>
<td><strong>Winter 2021</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nov. 18 - Dec. 2, 2020</td>
<td>Wed.-Wed.</td>
<td>Registration for Wintersession courses (begins at 9:00 A.M.).</td>
</tr>
<tr>
<td>Dec. 2, 2020</td>
<td>Wed.</td>
<td>Last day to register for a Wintersession course (5:00 p.m. deadline).</td>
</tr>
<tr>
<td>Dec. 22, 2020</td>
<td>Tues.</td>
<td>Wintersession online courses begin.</td>
</tr>
<tr>
<td>Jan. 3, 2021</td>
<td>Sun.</td>
<td>Residence halls open (for students registered for Wintersession classes only).</td>
</tr>
<tr>
<td>Jan. 4, 2021</td>
<td>Mon.</td>
<td>Wintersession begins (On-Campus and Destination courses).</td>
</tr>
<tr>
<td>Jan. 11, 2021</td>
<td>Mon.</td>
<td>Last day to change a grade option declaration.</td>
</tr>
<tr>
<td>Jan. 18, 2021</td>
<td>Mon.</td>
<td>Martin Luther King, Jr. holiday. No University exercises.</td>
</tr>
<tr>
<td>Jan. 19, 2021</td>
<td>Tues.</td>
<td>Last day to drop a course or request an incomplete from an instructor. Last day to initiate a Course Performance Report via ASK.</td>
</tr>
<tr>
<td><strong>Spring 2021</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jan. 1, 2021</td>
<td>Fri.</td>
<td>Last day for payment of charges.</td>
</tr>
<tr>
<td>Jan. 14, 2021</td>
<td>Thurs.</td>
<td>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. deadline).</td>
</tr>
<tr>
<td>Jan. 18, 2021</td>
<td>Mon.</td>
<td>Martin Luther King, Jr. holiday. No University exercises.</td>
</tr>
<tr>
<td>Jan. 26, 2021</td>
<td>Tues.</td>
<td>Registration of new students for the second semester (4:00 pm to midnight).</td>
</tr>
<tr>
<td>Jan. 27, 2021</td>
<td>Wed.</td>
<td>Classes of the second semester begin. Web registration begins at 8:00 am.</td>
</tr>
<tr>
<td>Feb. 9, 2021</td>
<td>Tues.</td>
<td>Last day to add a course without a fee. (5:00 p.m. 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. 10, 2021</td>
<td>Wed.</td>
<td>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. deadline).</td>
</tr>
<tr>
<td>Feb. 25, 2021</td>
<td>Thurs.</td>
<td>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. deadline).</td>
</tr>
<tr>
<td>Mar. 12, 2021</td>
<td>Fri.</td>
<td>Mid-semester deadline. Last day to change from credit to audit in a course (5:00 p.m. deadline).</td>
</tr>
<tr>
<td>Mar. 27 - Apr. 4, 2021</td>
<td>Sat.-Sun.</td>
<td>Spring Recess. Date by which sophomores entering their 5th semester must file their concentration declaration forms via ASK to avoid having a No Concentration hold placed against their Banner registration. (5:00 pm deadline).</td>
</tr>
<tr>
<td>March 29, 2021</td>
<td>Mon.</td>
<td>Date by which advisors must approve sophomore submitted concentrations in ASK to avoid having a No Concentration hold placed against the student's Banner registration. (5:00 pm deadline).</td>
</tr>
<tr>
<td>April 1, 2021</td>
<td>Thurs.</td>
<td>Deadline for students currently on non-medical leave to apply for readmission for Semester I.</td>
</tr>
<tr>
<td>April 5, 2021</td>
<td>Mon.</td>
<td>Classes resume.</td>
</tr>
<tr>
<td>April 5, 2021</td>
<td>Mon.</td>
<td>Advising period for fall preregistration begins. Students in their first through third semesters will need to procure their advising PIN from their advisor in order to register.</td>
</tr>
<tr>
<td>April 8, 2021</td>
<td>Thurs.</td>
<td>Date by which advisors must approve sophomore submitted concentrations in ASK to avoid having a No Concentration hold placed against the student's Banner registration. (5:00 pm deadline).</td>
</tr>
</tbody>
</table>

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
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<tr>
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</thead>
<tbody>
<tr>
<td>April 9, 2021</td>
<td>Fri</td>
<td>Deadline for submission of proposals for College Curriculum Council-approved undergraduate group study projects (GISPs), independent study projects, and internships for credit for Semester I.</td>
</tr>
<tr>
<td>Apr. 13, 2021</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>April 19, 2021</td>
<td>Mon</td>
<td>Registration opens for Semester I, 2021-22 for undergraduate students semester level 07 and above and all continuing graduate students at 8:00 a.m. Registration remains open until Monday, April 26.</td>
</tr>
<tr>
<td>April 20, 2021</td>
<td>Tues</td>
<td>Registration opens for Semester I, 2021-22 for undergraduate students semester levels 05-06 at 8:00 a.m. (Students are unable to register for 5th semester unless approved concentration is filed). Registration remains open until Monday, April 26.</td>
</tr>
<tr>
<td>April 21, 2021</td>
<td>Wed</td>
<td>Registration opens for Semester I, 2021-22 for continuing undergraduate students semester levels 04 and below at 8:00 a.m. Registration remains open until Monday, April 26.</td>
</tr>
<tr>
<td>April 30, 2021</td>
<td>Fri</td>
<td>Reading Period begins and will end on May 11 (optional and at the discretion of the instructor).</td>
</tr>
<tr>
<td>May 1, 2021</td>
<td>Sat</td>
<td>Deadline for undergraduates to declare a leave for Semester I. Theses of candidates for Masters and Ph.D. degrees in May due.</td>
</tr>
<tr>
<td>May 11, 2021</td>
<td>Tues</td>
<td>Reading Period ends. Classes end for courses not observing the Reading Period. Last day to drop a course (5:00 p.m. deadline) or to request an incomplete from an instructor.</td>
</tr>
<tr>
<td>May 11, 2021</td>
<td>Tues</td>
<td>UG CONCENTRATIONS: Last day for advisors to approve 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. deadline). Any declarations not advisor approved and recorded in Banner by the Office of the Registrar by the 5:00 p.m. deadline will not be honored. Last day to initiate a Course Performance Report via ASK.</td>
</tr>
<tr>
<td>May 11, 2021</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 12, 2021</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 approved submitted writing in ASK by the last day of the semester.</td>
</tr>
<tr>
<td>May 12 - 21, 2021</td>
<td>Wed. - Fri.</td>
<td>Final Examination Period. (No exams on Sunday May 16).</td>
</tr>
<tr>
<td>May 19, 2021</td>
<td>Wed.</td>
<td>Last day of Spring RISD classes.</td>
</tr>
</tbody>
</table>
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 e-mail 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 Late Registration and 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 website at:
http://www.brown.edu/about/administration/registrar/course-enrollment/registration

For a tutorial on registration, see:
https://ithelp.brown.edu/kb/articles/746-students-search-and-register-for-courses-on-courses-brown

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 current as of February 2020.

see:
http://selfservice.brown.edu/menu and select 'Courses@Brown (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. A “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, B, C/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 forms below.) Such supplemental evaluations are intended primarily for the 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 midsemester 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 the 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 year 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 fell 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 (or in the course (Refer to Academic Calendar for relevant 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 made 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 either in writing by completing a Transcript Order Form, or 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 2020-2021 is as follows:

Semester I, 2020-2021

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<tr>
<th>Date</th>
<th>9 am Group</th>
<th>2 pm Group</th>
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Semester II, 2020-2021

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<td>May 21 F</td>
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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.

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.

DIAP Courses: Race, Gender, and Inequality

In support of the University’s broader Diversity and Inclusion Action Plan, DIAP Courses on Race, Gender, and Inequality examine issues of structural inequality, racial formations and/or disparities, and systems of power.

They may investigate:

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
(i) 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;
(ii) the production of categories of ethnicity, race, gender, sexual
orientation, class, religion, ability, citizenship status, and geography (and
their intersections);
(iii) the structures, institutions, practices, and attitudes that enable,
maintain, or mitigate domestic and/or global disparities in health, income,
education outcomes, media representations, etc.; and/or
(iv) the production of knowledge and difference in the context of
discourses on race, power, and privilege
A complete list of each semester’s DIAP courses may be viewed in
Courses@Brown by choosing “DIAP Courses: Race, Gender, Inequality” 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.

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.

Community-Based Learning and Research
Fall 2020
Anthropology
ANTH 1300 S01 16485 Anthropology of Addictions Irene Glasser

Archaeology and Ancient World
ARCH 1900 S01 17209 Archaeology of College Hill TBD

Education
EDUC 1890 S01 16040 Family Engagement in Education Yoko Yamamoto

English
ENGL 1050P S01 16239 Reframing Race in Art Writing TBD

Environmental Studies
ENVS 0110 S01 16804 Humans, Nature and the Environment Dawn King

French Studies
FREN 1410T S01 16023 L’expérience des réfugiés Virginia A. Krause

Spring 2021
Anthropology
ANTH 1301 S01 25758 Anthropology of Homelessness Irene Glasser

English
ENGL 1140E S01 24848 Writing for Activists Kate J. Schapira

Environmental Studies
ENVS 1555 S01 25257 Urban Agriculture Dawn King

DIAP Courses: Race, Gender and Inequality
Fall 2020
Africana Studies
AFRI 0090 S01 16996 An Intro to Africana Studies Francoise N. Hamlin
AFRI 0210 S01 16997 Afro Latin Americans Ani Di'Zzienyo
AFRI 0670 S01 16998 Global Black Radicalism Brian W. Meeks
AFRI 0980 S01 17000 Fela Kuti African Freedom Dotun Ayobade
AFRI 1110 S01 17002 Voices Beneath the Veil Elmo Terry-Morgan
AFRI 1210 S01 17003 Afro-Brazilians + Brazilin Polity Ani Di’Zzienyo
AFRI 1920 S01 17004 Health Inequality in Historica Lundy Braun

American Studies
AMST 1600C S01 15738 Anti-Trafficking Savior Complex Elena Shih
AMST 1901D S01 15744 Motherhood in Black and White Beverly Haviland

Anthropology
ANTH 0300 S01 16481 Culture and Health Katherine A. Mason
ANTH 1848 S01 16489 Ethnography + Social Critique Matthew C. Gutmann

Archaeology and Ancient World
ARCH 1900 S01 17209 Archaeology of College Hill TBD

Comparative Literature
COLT 0812P S01 16287 Banned Books of Middle East Emily L Drumsta

East Asian Studies
EAST 1940A S01 15801 Crafting Early Modern China Kajun Chen

Economics
ECON 1310 S01 16280 Labor Economics Kenneth Chay
ECON 1370 S01 16181 Race and Inequality in the US Glenn C. Lowry
ECON 1510 S01 16184 Economic Development TBD
ECON 1530 S01 16279 Health, Hunger + the Household Andrew D. Foster
ECON 1570 S01 16871 The Econ of Latin Americans Pedro Dal Bo

Education
EDUC 0300 S01 16014 Introduction to Education Andrea Flores
EDUC 1890 S01 16040 Family Engagement in Education Yoko Yamamoto

English
ENGL 0100Y S01 16305 Inventing Asian Am Lit Daniel Kim
ENGL 0101A S01 16304 Independence and Modern Lit Tamar Katz
ENGL 0150Y S01 16209 Brontës and Brontëism Benjamin W. Parker
ENGL 0710X S01 16195 Black Poetics Kevin E Quashie
ENGL 1050P S01 16239 Reframing Race in Art Writing TBD
ENGL 1710J S01 16213 Modern African Literature Olakunle George
ENGL 1711K S01 16336 Literature and Poverty Rolland D. Murray
ENGL 1711D S01 16199 Reading New York Tamar Katz

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
### Ethnic Studies
- ETHN 1000 S01 15749 Intro to Amer/ethnic Studies Adrienne J. Keene
- ETHN 1200B S01 15746 Cont Indigenous Education Adrienne J. Keene
- ETHN 1200G S01 15939 Intro Latino Cultural Studies Leticia Alvarado
- ETHN 1650S S01 15754 Asian Americans and the Racial Robert George Lee
- ETHN 1750D S01 15742 Transcultural Asian American St Evelyn Hu-Dehart
- ETHN 1750L S01 15741 Latina Feminisms Leticia Alvarado

### Hispanic Studies
- HISP 0730 S01 16889 Latin Am in Its Lit + Culture Iris Montero
- HISP 0750P S01 16714 Screening Social Justice Sarah L. Thomas

### History
- HIST 0566A S01 15881 Sport in American History Howard P. Chudacoff
- HIST 1202 S01 15876 Foundations Classical Heritage Kenneth S. Sacks
- HIST 1262F S01 16689 Women, Gender, and Feminism Caroline Castiglione
- HIST 1571 S01 15864 Intell Hist of Black Women Emily A Owens
- HIST 1620 S01 16131 Gandhi Making Modrn South Asia Vazira F-Y Zamindar
- HIST 1964L S01 15896 Slavery in Early Modern Wom Adam J Teller

### Italian Studies
- ITAL 1262 S01 16687 WomenGenderFeminism Caroline Castiglione

### Judaic Studies
- JUDS 0050A S01 15764 Believers, Agnostics, Atheists David C. Jacobson
- JUDS 0603 S01 15759 Race, Religion, + the Secular Paul E. Nahme
- JUDS 0902 S01 15763 History of the Holocaust Adam J Teller
- JUDS 1726 S01 15766 Jewish Humor + Comm Ent Mary Gluck

### Middle East Studies
- MES 1120 S01 17013 Art, Culture & Soc in Tehran Samine Tabatabaei
- MES 1300 S01 17012 Intellectual Change:OttomnTurk Meltem C Toksoz

### Modern Culture and Media
- MCM 0150 S01 15910 Text/Media/Culture Ariella Azoulay
- MCM 1204J S01 15925 A New Black Gaze Tina Campt
- MCM 1504R S01 16817 Iranian Cinema Joan K. Copjec

### Music
- MUSC 0021F S01 16835 Popular Music in Latin America Joshua Tucker
- MUSC 0642 S01 16913 World Music Ensemble Martin K. Obeng

### Political Science
- POLS 0820H S01 15615 Race and Visions of Justice Melvin L Rogers
- POLS 1465 S01 15617 Introduction to Poltical Econ David B Skarbek
- POLS 1820F S01 15603 Black Protest: Theory and Prax Juliet Hooker
- POLS 1821V S01 15602 Afro-Caribbean Philosophy Paget Henry

### Public Health
- PHP 1070 S01 16749 Brdn of Disease in Devel Cntrys Kristen T. Marcevich
- PHP 1100 S01 16765 Comparative Health Care Systems Omar Galarraga
- PHP 1860I S01 16761 Disability/Health and Community Sarah E. Skeels
- PHP 1920 S01 16769 Social Determinants of Health Diana Grigsby

### Religious Studies
- RELS 0015 S01 16338 Sacred Stories Susan Ashbrook Harvey
- RELS 0090K S01 16342 Christmas in America Daniel Vaca
- RELS 1440A S01 16355 Themes in Japanese Buddhism Janine T Anderson Sawada

### Russian
- RUSS 1220 S01 16728 Nationalism and Nationalities Fabrizio Fendi

### Sociology
- SOC 0010 S01 17057 Introductory to Sociology Nicole Gonzalez Van Cleve
- SOC 1270 S01 17055 Race,Class,Ethnicity Mdm Wld Jose Izitgsohn

### University Courses
- UNIV 1005 S01 15762 Narratives of Racism David C. Jacobson

### Urban Studies
- URBN 0210 S01 15736 The City: Intro to Urban Study Samuel Zipp
- URBN 1870M S01 15668 Urban Regimes in Amer Republic Marion E. Orr

### Spring 2021

### Africana Studies
- AFR 0990 S01 25507 Black Lavender Elmo Terry-Morgan
- AFR 1020C S01 25733 Afro-Luso-Brazilian Triangle Anani Dzidzienyo
- AFR 1020D S01 25509 Race, Rights and Rebellion Keisha-Khan Y. Perry
- AFR 1050A S01 25731 Advanced RPM Playwriting Elmo Terry-Morgan
- AFR 1050D S01 25732 Intermediate RPM Playwriting Elmo Terry-Morgan
- AFR 1050E S01 25510 RPM Playwriting Elmo Terry-Morgan
- AFR 1060E S01 25512 W African Wtrtrs/Potcl Kingdm Anani Dzidzienyo
- AFR 1090 S01 25513 Bck Freedm Strggle Since 1945 Francoise N. Hamlin
- AFR 1100X S01 25514 Black Speculative Fiction Matthew Guterl
- AFR 1150 S01 25516 Afro-Caribbean Philosophy Paget Henry
- AFR 1360 S01 25517 Knowledge, Texts + Methodology Brian W E Meeks

### American Studies
- AMST 0170D S01 24502 Musical Youth Cultures Kiri M. Miller
- AMST 1700N S01 24500 Public Memory Beverly Haviland

### Anthropology
- ANTH 0100 S01 25742 Intro to Cultural Anthropology Myles Lennon
- ANTH 1250 S01 25771 Film/Anthro/Ident/Imag Ind Soc Lina M. Fruzzetti
- ANTH 1505 S01 25809 Vertical Civ: SouthAm Arch Parker VanValkenburgh
- ANTH 1624 S01 25769 NE Indians,Colonists,Africans Patricia E. Rubertone

### Comparative Literature
- COLT 1812V S01 25431 War, Anti-War, Postwar Esther K. Whitfield

### Economics
- ECON 1310 S01 24942 Labor Economics Kenneth Chay

### Education
- EDUC 1380 S01 24703 Language and Education Policy Pierre De Galbert

### English
- ENGL 0150X S01 24908 The Claims of Fiction Olakunle George
- ENGL 0710Q S01 24826 Literature and Segregation Rolland D. Murray
- ENGL 1140E S01 24848 Writing for Activists Kate J. Schapira
- ENGL 1180V S01 24851 Asian American Narrative TBD
- ENGL 1711N S01 24911 PlantationandWoodsinLit Dixa Ramirez D'Oleo

### Environmental Studies
- ENVS 0705 S01 25256 Equity and the Environment Myles Lennon

### Ethnic Studies
- ETHN 1200C S01 25405 Introduction to Asian American Kevin A. Escudero
- ETHN 1200I S01 25405 Representations of Native ppls Adrienne J. Keene
- ETHN 1200K S01 25470 Intro to Amer Indian Studies Elizabeth M. Hoover
- ETHN 1750B S01 25407 Eating Local in Indian Country Elizabeth M. Hoover
- ETHN 1750S S01 25427 Extravagant Texts Daniel Kim

### French Studies
- FREN 1410R S01 24708 Images d'une guerre sans nom Ourida Mostefai

### Religious Studies
- RELS 0015 S01 16338 Sacred Stories Susan Ashbrook Harvey

### Russian
- RUSS 1220 S01 16728 Nationalism and Nationalities Fabrizio Fendi

### Sociology
- SOC 0010 S01 17057 Introductory to Sociology Nicole Gonzalez Van Cleve
- SOC 1270 S01 17055 Race,Class,Ethnicity Mdm Wld Jose Izitgsohn

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### General Regulations

- **HIST 1969C S01 24627 Debates/Middle Eastern History Sreemati Mitter**
- **HIST 1969D S01 25811 Palestine vs the Palestinians Beshara B. Doumani**
- **HIST 1969F S01 25182 Mod Middle East Hist thru Lit Sreemati Mitter**
- **HISP 0750P S01 16714 Screening Social Justice Sarah L. Thomas**
- **History**
  - HIST 0523P S01 15963 The First World War Benjamin P. Hein
  - HIST 0551A S01 15878 Lincoln in History and Culture Michael Vorenberg
  - HIST 0556A S01 15881 Sport in American History Howard P. Chudacoff
  - HIST 0580M S01 15880 Age of Revolutions, 1760-1824 Jeremy R. Mumford

### Middle East Studies
- **MES 1170 S01 25532 Iranian Art: Sites and Sights Samine Tabatabaei**
- **MES 1270 S01 25533 Hist of Watching & Surveying Samine Tabatabaei**

### Modern Culture and Media
- **MCM 1501O S01 25217 Map Portuges-Speak Cltr:Prtugl Leonor Simas-Almeida**
- **MUSC 0642 S01 25407 World Music Ensemble Martin K. Obeng**

### Music

### Political Science
- **POL 1350 S01 24405 Asian American Politics Tyler Jost**
- **POL 1824M S01 24441 Pol of Race + Criminal Justice Paul F Testa**

### Portuguese and Brazilian Studies
- **POBS 0620 S01 25217 Map Portuges-Speak Cltr:Prtugl Leonor Simas-Almeida**
- **POBS 0810 S01 16707 Cross-Cultural Identities Patricia I. Sobral**
- **POBS 0910 S01 16732 On the Dawn of Modernity Onesimo T. Almeida**

### Public Health
- **PHP 1600 S01 25285 Obesity in the 21st Century Akillah Dulin**

### Religious Studies
- **RELS 0085B S01 24991 Blues People:Topics in African Andre C. Willis**
- **RELS 0845 S01 25008 Religious Freedom in America Daniel Vaca**

### Sociology
- **SOC 0010 S01 25622 Introductory to Sociology Andrew M. Schrank**
- **TAPS 1281G S01 25246 Queer Dance J Dellecave**

### Theatre Arts and Performance Studies
- **TAPS 1281O S01 25504 Acting Outside the Box Kym Moore**
- **TAPS 1425 S01 25249 Queer Performance Leon J A Hilton**

### First Year Seminars

### Fall 2020

#### Biology
- **BiOL 0100 S01 15571 Living Bio at Brown and Beyond Katherine F. Smith**
- **BiOL 0150A S01 15610 Tech/Anlsys DNA-based Biotech Jody Hall**
- **BiOL 0150D S01 16095 Technq in Regenerative Mdcne Toni-Marie Achilli**
- **BiOL 0190E S01 15572 Botanical Roots/Mod Medicines Fred V Jackson**
- **BiOL 0190F S01 15574 Darwinian Medicine Marc Tatar**
- **BiOL 0190P S01 15635 Pride/Prej Dev of Sci Theories Stephen L. Helfand**
- **BiOL 0190R S01 15558 Phage Hunters, Part I Sarah E. Taylor**
- **BiOL 0190U S01 15636 The Lives of Plants Peter Heywood**

#### Chemistry
- **CHEM 0080B S01 16828 Molecular Structrns in Chem/Bio TBD**

#### Comparative Literature
- **COLT 0510C S01 15994 The World of Lyric Poetry Dore J. Levy**
- **COLT 0610D S01 16162 Rites of Passage in the Box Kym Moore**
- **COLT 0710I S01 15997 New Worlds Stephanie Merrim**

#### Czech
- **CZCH 0320A S01 16471 Czech Animation Masako Ueda Fidler**

#### Earth, Environmental, and Planetary Science
- **EEPS 0160I S01 16810 Diamonds Stephen Parman**

#### English
- **ENGL 0150C S01 16207 The Medieval King Arthur Elizabeth Johnson Bryan**
- **ENGL 0150F S01 16208 Hawthorne and James Stuart Burrows**
- **ENGL 0150Y S01 16209 Brontës and Brontëism Benjamin W. Parker**
- **ENGL 0151B S01 16286 How to Do Things with Books James F. Egan**

#### Environmental Studies
- **ENVS 0070C S01 16800 Transcending Transptn Impacts Kurt Teichert**

#### French Studies
- **FREN 0720G S01 16206 L’art de la nouvelle Thangam Ravindranathan**

#### Hispanic Studies
- **HISP 0750P S01 16714 Screening Social Justice Sarah L. Thomas**

#### History
- **HIST 0523P S01 15963 The First World War Benjamin P. Hein**
- **HIST 0551A S01 15878 Lincoln in History and Culture Michael Vorenberg**
- **HIST 0556A S01 15881 Sport in American History Howard P. Chudacoff**
- **HIST 0580M S01 15880 Age of Revolutions, 1760-1824 Jeremy R. Mumford**

#### Judaic Studies
- **JUDS 0050A S01 15764 Believers, Agnostics, Atheists David C. Jacobson**
- **JUDS 0050H S01 15761 Israel’s Wars Rachel Rojanski**

#### Literary Arts
- **LITR 0100A S01 15835 Introduction to Fiction TBD**
- **LITR 0100B S01 15836 Introduction to Poetry TBD**
- **LITR 0710 S01 15846 Writers on Writing Seminar Cole Swensen**

#### Music
- **MUSC 0021F S01 16835 Popular Music in Latin America Joshua Tucker**

#### Philosophy
- **PHIL 0207 S01 16895 Food and Philosophy Eric Guindon**

#### Physics
- **PHYS 0100 S01 16658 Nature/meaning Sci Explanation TBD**

#### Political Science
- **POLS 0820H S01 15613 Race and Visions of Justice Melvin L Rogers**

#### Portuguese and Brazilian Studies
- **POBS 0620 S01 25217 Map Portuges-Speak Cltr:Prtugl Leonor Simas-Almeida**
- **POBS 0810 S01 16707 Cross-Cultural Identities Patricia I. Sobral**
- **POBS 0910 S01 16732 On the Dawn of Modernity Onesimo T. Almeida**

#### Religious Studies
- **RELS 0090K S01 16342 Christmas in America Daniel Vaca**

#### Russian
- **RUSS 0320C S01 16473 Demons and Angels Michal Oklot**
- **RUSS 1220 S01 16728 Nationalism and Nationalities Fabrizio Fengeh**

#### Spring 2021

#### Biology
- **BiOL 0190S S01 24334 Phage Hunters, Part II Sarah E. Taylor**

#### Education
- **EDUC 0410A S01 24768 New Faces, New Challenges Andrea Flores**

#### Engineering
- **ENGN 0120A S01 24881 Crssng Consumr Chasm by Desgn Richard D. Fleeter**
- **ENGN 0120B S01 24882 Crssng Spce Chsm Thr Engn Dsgn Richard D. Fleeter**

#### English
- **ENGL 0150U S01 24825 The Terrible Century Timothy R T Bewes**
- **ENGL 0150X S01 24908 The Claims of Fiction Olakunle George**

#### Hispanic Studies
- **HISP 0750G S01 25383 Wildeyed Stories Mercedes Vaquero**

#### Literary Arts
- **LITR 0100A S01 24574 Introduction to Fiction TBD**

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
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<th>Course Code</th>
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<th>Instructor(s)</th>
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<td>LITR 0710 S01 24585</td>
<td>Writers on Writing Seminar</td>
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<td>POLS 0820I S01 24433</td>
<td>Crime, Mafias and Prison</td>
<td>David B Skarbek</td>
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<td>Phil of the American Founding</td>
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<td>Women's Welfare in Global Pers</td>
<td>Linda J. Cook</td>
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<td>RELS 0090F S01 24992</td>
<td>Friendship in the Anc't World</td>
<td>Saul Olyan</td>
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<td>BIOL 0940A S01 15648</td>
<td>Viral Epidemics</td>
<td>Walter J. Atwood</td>
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<td>Rebecca Y Kartzinel</td>
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<td>Musical Youth Cultures</td>
<td>Kiri M. Miller</td>
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<td>BIOL 0940G S01 24968</td>
<td>Antibiotic Drug Discovery</td>
<td>Toni-Marie Achilli</td>
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<td>HIST 0656A S01 24605</td>
<td>Hist Intercollegiate Athletics</td>
<td>Howard P. Chudacoff</td>
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<td>BIOL 0100 S01 15571</td>
<td>Living Bio at Brown and Beyond</td>
<td>Katherine F. Smith</td>
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<td>BIOL 0190U S01 16636</td>
<td>The Lives of Plants</td>
<td>Peter Heywood</td>
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<td>Nicolas Lux Fawzi</td>
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<td>Brian W E Meeks</td>
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<td>Anani Dzidzienyo</td>
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<td>Voices Beneath the Veil</td>
<td>Elmo Terry-Morgan</td>
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<td>BIOL 1210 S01 17003</td>
<td>Afro-Brazilian Polity</td>
<td>Anani Dzidzienyo</td>
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<td>Health Inequality in Historical</td>
<td>Lundy Braun</td>
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French Studies
FREN 0600 S01 16197 Writing and Speaking French II Stephanie A Ravillon
FREN 0600 S02 16202 Writing and Speaking French II Stephanie A Ravillon
FREN 0600 S03 16203 Writing and Speaking French II Stephanie A Ravillon
FREN 0610 S01 16159 Writing and Speaking French II Stephanie A Ravillon
FREN 0720G S01 16206 l'art de la nouvelle Thangam Ravindranathan
FREN 1040B S01 16107 Théâtre du XVe siècle Lewis C. Seifert
FREN 1210F S01 16115 L'oeuvre romanesque David Wills
FREN 1330A S01 16113 Fairy Tales and Culture Lewis C. Seifert
FREN 1410F S01 16690 Comment peut-on être Français? Ouida Mostefai
FREN 1410T S01 16023 L'expérience des réfugiés Virginia A. Krause

Gender and Sexuality Studies
GNSS 0120 S01 17205 Intro Gender/Sexuality Studies Denise L. Davis
GNSS 1990 S01 17206 Senior Seminar Jeremy Lehen

German Studies
GRMN 0500F S01 16099 20th Century German Culture TBD

Hispanic Studies
HISP 0730 S01 16889 Latin Am in Its Lit + Culture Iris Montero

History of Art and Architecture
HIAA 1550C S01 15725 Dreaming of Food in EM World Evelyn Lincoln

History
HIST 0233 S01 15874 Colonial Latin America Jeremy R. Mumford
HIST 0252 S01 15868 The American Civil War Michael Vorenberg
HIST 0253 S01 15865 Religion, Politics, Culture Linford D. Fisher
HIST 0286A S01 15863 History of Medicine I Harold J. Cook
HIST 0523P S01 15963 The First World War Benjamin P Hein
HIST 0551A S01 15878 Lincoln in History and Culture Michael Vorenberg
HIST 0556A S01 15881 Sport in American History Howard P. Chudacoff
HIST 0580M S01 15880 Age of Revolutions, 1760-1824 Jeremy R. Mumford
HIST 1101 S01 15877 Chinese Political Thought Cynthia J. Brokaw
HIST 1149 S01 15867 Imperial Japan Kerry Smith
HIST 1202 S01 15876 Foundations Classical Heritage Kenneth S. Sacks
HIST 1230C S01 17215 Renewal in 20th c Europe Mary Gluck
HIST 1262F S01 16669 Women, Gender, and Feminism Caroline Castiglione
HIST 1266C S01 15872 English History, 1529-1660 Tim Harris
HIST 1280C S01 15866 End of USSR, Rise of Russia Ethan M Pollock
HIST 1825F S01 15965 Nature, Knowledge, Power Tara E. Nummedal
HIST 1826C S01 15869 End of USSR, Rise of Russia Ethan M Pollock
HIST 1827F S01 15965 History, Knowledge, Power Tara E. Nummedal
HIST 1968A S01 15884 Approaches to the Middle East Beshara B. Doumani
HIST 1992 S01 16901 History Honors Workshop Holly A Case
HIST 1994 S01 16906 History Honors Thesis Part II Holly A Case

Italian Studies
ITAL 0500 S01 16088 Advanced Italian I Cristina Abbona-Sneider
ITAL 1010 S01 16886 Dante in English Translation Ronald L. Martinez
ITAL 1262 S01 16887 WomenGenderFeminism Caroline Castiglione

Judaic Studies
JUDS 0050A S01 15764 Believers, Agnostics, Atheists David C. Jacobson
JUDS 0065 S01 16097 Israelite Narrative and Art Larry Wills
JUDS 0603 S01 15759 Race, Religion, + the Secular Paul E. Nahme
JUDS 0902 S01 15763 History of the Holocaust Adam J Teller
JUDS 1753 S01 15767 Blacks and Jews Rachel Rojanski

Korean
KREA 0500 S01 15798 Advanced Korean Hye-Sook Wang

Literary Arts
LITR 0100A S01 15835 Introduction to Fiction TBD
LITR 0100B S01 15836 Introduction to Poetry TBD
LITR 0110A S01 15837 Fiction I TBD
LITR 0110A S02 15838 Fiction I TBD
LITR 0110A S03 15839 Fiction I TBD
LITR 0110B S01 15840 Poetry I TBD
LITR 0110B S02 15841 Poetry I TBD
LITR 0110B S03 15842 Poetry I TBD
LITR 0110B S04 16995 Poetry I TBD
LITR 0210A S01 15843 Fiction Writing II Andrew E. Colarusso
LITR 0210A S02 15844 Fiction Writing II TBD
LITR 0210B S01 15845 Poetry Writing II Sawako Nakayasu
LITR 0710 S01 15846 Writers on Writing Seminar Cole Swensen
LITR 1010A S01 15847 Advanced Fiction Laird B Hunt
LITR 1010A S02 17109 Advanced Fiction TBD
LITR 1110N S01 16616 Wrkshp Potential Lit Peter Gale Nelson
LITR 1151Y S01 16976 Against Genre Hiram F Moody
LITR 1231E S01 17026 Rereading Writing John H. Cayley

Middle East Studies
MES 1120 S01 17013 Art, Culture & Soc in Tehran Samine Tabatabaei

Modern Culture and Media
MCM 0150 S01 15910 Text/Media/Culture Ariella Azoulay
MCM 1204J S01 15925 A New Black Gaze Tina Campt

Music
MUSC 0021F S01 16835 Popular Music in Latin America Joshua Tucker

Philosophy
PHIL 0600 S01 16898 Modern Science + Human Values Elizabeth Miller
PHIL 0730 S01 16897 Ancient Philosophy Emily Kress
PHIL 0560 S01 16894 Political Philosophy David Estlund
PHIL 0990F S01 16899 Perception Adam R. Pautz
PHIL 1540 S01 16900 The Nature of Morality James Dreier

Physics
PHYS 0100 S01 16658 Nature/Meaning Sci Explanation TBD

Political Science
POLS 1820F S01 15653 Black Protest: Theory and Prax Juliet Hooker
POLS 1820G S01 15708 Politics and Nature Sharon R. Krause
POLS 1820H S01 15581 Contraband Capitalism Peter R. Andreas
POLS 1820X S01 15893 Democratic Erosion Robert A. Clair
POLS 1821P S01 15608 Political Psychology of IR Rose McDermott
POLS 1821V S01 15619 Democracy and Inequality in Am Richard O. Snyder
POLS 1822U S01 15622 War and Human Rights Nina Tannenwald
POLS 1822W S01 15634 Congressional Investigations Jeffrey S Robbins
POLS 1823I S01 15623 Urban Politics and Policy Katherine Tate
POLS 1823S S01 15612 Crafting Citizens: Democratic Eric M Patashnik
POLS 1910 S01 15597 Senior Honors Thesis Preparat Ross E. Chet

Portuguese and Brazilian Studies
POBS 0400 S01 16708 Writing + Speaking Portuguese Naomi Parker
POBS 0810 S01 16707 Cross-Cultural Identities Patricia I. Sobral
POBS 0910 S01 16732 On the Dawn of Modernity Onesimo T. Almeida
POBS 1030 S01 16729 Adv Lang Study/Creative Wrtng Leonor Simas-Almeida

Public Health
PHP 1070 S01 16749 Brdt of Disease in Devel Cntry Stephen T. Mcgarvey
PHP 1910 S01 16752 Public Health Senior Sem Jasjit Singh Ahiwuralia

Religious Studies
RELS 0015 S01 16338 Sacred Stories Susan Ashbrook Harvey
RELS 0090K S01 16342 Christmas in America Daniel Vaca
RELS 0140 S01 16344 Food, Religion and Politics in Finnian M. Moore-Gerety
RELS 0290H S01 16345 Defense Against the Dark Arts Jae Hee Han
RELS 0526 S01 16357 This Whole World is OM: Mantra Finnian M. Moore-Gerety
RELS 1000 S01 16353 Methods in Religious Studies Stephen S. Sobral
RELS 1380C S01 16354 Law and Religion Nathaniel A. Berman

Russian
RUSS 0320C S01 16473 Demons and Angels Michal Oiklot
RUSS 1220 S01 16728 Nationalism and Nationalities Fabrizio Fenghi
RUSS 1820 S01 16474 Dostoevsky Vladimir Golstein

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Science, Technology, and Society
STS 1900 S01 16808 Sr Sem in Science and Society Jeffrey S. Poland

Sociology
SOC 1010 S01 17059 Classical Sociological Theory Patrick G. Heller
SOC 1115 S01 17056 The Enlightened Entrepreneur: Lisa DiCarlo
SOC 1420 S01 17052 Violence and Society Gregory C. Elliott
SOC 1871R S01 17072 Knowledge Ntwks, Globl Transf Michael D. Kennedy
SOC 1950 S01 17053 Senior Seminar Carrie E. Spearin

South Asian Studies
SAST 0140 S01 17195 Food, Religion and Politics Finnian M. Moore-Gerety
SAST 0526 S01 17196 This Whole World is OM Finnian M. Moore-Gerety

Theatre Arts and Performance Studies
TAPS 0100 S01 16737 Playwriting I TBD
TAPS 0100 S02 16738 Playwriting I Elmo Terry-Morgan
TAPS 0200 S01 16739 Playwriting II TBD
TAPS 1380 S01 16431 Mise en Scene Spencer Golub
TAPS 1600 S01 16748 Dramaturgy Patricia Ybarra

Urban Studies
URBN 0210 S01 15736 The City: Intro to Urban Study Samuel Zipp
URBN 1870D S01 15669 Downtown Development Robert E. Azar
URBN 1870M S01 15688 Urban Regimes in Amer Republic Marion E. Orr

Visual Art
VISA 1800C S01 17163 Honors Seminar Leslie A. Bostrom

Spring 2021

Africana Studies
AFRI 0990 S01 25007 Black Lavender Elmo Terry-Morgan
AFRI 1020D S01 25509 Race, Rights and Rebellion Keisha-Khan Y. Perry
AFRI 1100X S01 25514 Black Speculative Fiction Matthew Gutel
AFRI 1360 S01 25517 Knowledge, Texts + Methodology Brian W E Meeks

American Studies
AMST 0170D S01 24500 Public Memory Beverly Haviland
AMST 1700N S01 24500 Public Memory Beverly Haviland

Anthropology
ANTH 0100 S01 25742 Intro to Cultural Anthropology Myles Lennon
ANTH 1940 S01 25778 Ethnographic Research Methods Lina M. Fruzzetti

BioMed-Neuroscience
NEUR 1040 S01 24715 Introduction to Neurogenetics Karla Kaun
NEUR 1540 S01 24716 Learning and Memory Monica Linden
NEUR 1800 S01 24718 Experimental Neurobiology John J. Stein

Biology
BIOL 0160 S01 24362 Plants, Food, and People Peter Heywood
BIOL 0285 S01 24386 Inquiry in Biochemistry Kristina Luisa Cohen
BIOL 0285 S02 24388 Inquiry in Biochemistry Kristina Luisa Cohen
BIOL 0400 S01 24352 Biological Design Sharon M. Swartz
BIOL 0430 S01 24355 Evolution of Plant Diversity Rebecca Y Kartzinel
BIOL 1810 S01 24671 21st Century Applications in Michelle Rose Dawson

Business, Entrepreneurship and Organizations
BEO 1940A S01 25422 BEO Capstone II TBD
BEO 1940B S01 25423 BEO Capstone II TBD

Classics
CLAS 0900 S01 25448 Greek Mythology Pura Nieto Hernandez
CLAS 1120U S01 25450 Presidents/Western Tradition Joseph Michael Pucci
CLAS 1310 S01 25452 Roman Hist I:Rise/Fall Imp Repl TBD

Cognitive, Linguistic and Psychological Sciences
CLPS 1390 S01 25350 Linguistic Field Methods Scott H. AnderBois
CLPS 1420 S01 25352 Cognitive Neuropsychology Elena Festa
CLPS 1480B S01 25353 Cognitive Aging and Dementia Elena Festa

Comparative Literature
COLT 0610E S01 25479 Mexico Crisis/Identity 1519-1968 Stephanie Merrin
COLT 1431B S01 25429 Modern Arabic Poetry Emily L. Drumsta

Computer Science
CSCI 1800 S01 25197 Cybersec and Intl Relations John E. Savage

Contemplative Studies
COST 0037 S01 24988 Sensing the Sacred Finnian M. Moore-Gerety
COST 0100 S01 25014 Intro to Contemplative Studies Harold D. Roth
COST 0525 S01 24994 History & Practice of Yoga Finnian M. Moore-Gerety

Earth, Environmental, and Planetary Science
EEPS 0240 S01 25806 Earth:Evolutn of Habibl Planet Timothy D. Herbert
EEPS 0850 S01 25803 Weather and Climate Meredith K. Hastings
EEPS 1150 S01 25800 Limnology: The Study of Lakes James M. Russell
EEPS 1450 S01 25798 Structural Geology Greh Hirth
EEPS 1520 S01 25804 Ocean Circulation and Climate Ray Fox-Kemper

Economics
ECON 1400 S01 24943 The Economics of Mass Media Jesse M. Shapiro
ECON 1430 S01 24944 The Economics of Social Policy Emily F. Oster
ECON 1486 S01 24945 Economic Analysis of Political Daniel J. D'Amico

Education
EDUC 1150 S01 24697 Education, Economy, School Reform Matthew A. Kraft
EDUC 1430 S01 24694 Soc Psych of Race, Class + Gen David E. Rangel
EDUC 1730 S01 24701 Amer Higher Ed in Hist Context TBD

Engineering
ENGN 0120A S01 24881 Crssng Chasm by Desgn Richard D. Fleeter
ENGN 0120B S01 24882 Crssng Spce Chsm Thr Engn Dsgn Richard D. Fleeter
ENGN 1010 S01 24887 Entrepreneurial Process Daniel E. Warshay
ENGN 1010 S02 24888 Entrepreneurial Process Jason D. Harry

English
ENGL 1190X S01 24854 Nonfiction Now Michael H. Stewart

Environmental Studies
ENVS 1925 S01 25259 Energy Policy and Politics Dawn King

French Studies
FREN 0600 S01 24799 Writing and Speaking French II TBD
FREN 0600 S02 24800 Writing and Speaking French II TBD
FREN 0600 S03 24801 Writing and Speaking French II TBD
FREN 0600 S04 24802 Writing and Speaking French II TBD
FREN 1000B S01 24738 Litterature et culture Virginia A. Krause
FREN 1120F S01 24804 L'ener, c'est les autres Thangam Ravindranathan
FREN 1140A S01 24750 French Theory David Wills
FREN 1410R S01 24708 Images d’une guerre sans nom Ourida Mostefai
FREN 1510A S01 24803 Traduction Stephanie A. Ravillon

Hispanic Studies
HISP 0740 S01 25384 Intensive Survey of Spanish Lit TBD

History
HIST 0286B S01 24606 History of Medicine II Harold J. Cook
HIST 1121 S01 24611 The Modern Chinese Nation Rebecca A. Nedostup
HIST 1155 S01 25327 Japan's Pacific War: 1937-1945 Kerry Smith
HIST 1262M S01 24619 Truth on Trial Caroline Castiglione
HIST 1268D S01 24615 British History, 1860-1800 Tim Harris
HIST 1595A S01 25807 Thinking Historically Kenneth S. Sacks
HIST 1963Q S01 24792 Sex, Power, and God Amy G. Remensnyder
HIST 1969C S01 24627 Debates/Middle Eastern History Sreemati Mitter
HIST 1969D S01 25811 Palestine vs the Palestinians Homan Elmor
HIST 1969F S01 25182 Mod Middle East Hist thru Lit Sreemati Mitter
HIST 1972A S01 24623 American Legal Hist, 1760-1920 Michael Vorenberg
HIST 1977I S01 25421 Gen, Race, Med in Americas Daniel A. Rodriguez

Italian Studies
ITAL 0600 S01 24735 Advanced Italian II Cristina Abbona-Sneider
ITAL 1020 S01 24736 Boccaccio's Decameron Ronald L. Martinez

Literary Arts
LITR 0100A S01 24574 Introduction to Fiction TBD
LITR 0100B S01 24575 Introduction to Poetry TBD
LITR 0110A S01 24576 Fiction I TBD
LITR 0110A S02 24577 Fiction I TBD
LITR 0110A S03 24578 Fiction I TBD
LITR 0110A S04 25540 Fiction I Laird B Hunt
LITR 0110B S01 24579 Poetry I TBD
LITR 0110B S02 24580 Poetry I TBD
LITR 0110B S03 24581 Poetry I TBD
LITR 0110B S04 25501 Poetry I TBD
LITR 0210A S01 24582 Fiction Writing II Andrew E. Colarusso
LITR 0210A S02 24583 Fiction Writing II TBD
LITR 0210B S01 24584 Poetry Writing II TBD
LITR 0710 S01 24585 Writers on Writing Seminar Colin C D Channer
LITR 0999 S01 25474 Graphic Novels and Comic Maste Hiram F Moody

Middle East Studies
MES 1270 S01 25533 Hist of Watching & Surveying Samine Tabatabaei

Physics
PHYS 0560 S01 25124 Experiments in Modern Physics TBD
PHYS 1560 S01 25132 Modern Physics Laboratory TBD
PHYS 1600 S01 25145 Computational Physics TBD

Political Science
POLS 0920A S01 24442 Bleeding Heart Libertarianism John O. Tomasi
POLS 18202 S01 24401 The Rise of Populism and Illib Linda J. Cook
POLS 1821I S01 24396 Issues in Democratic Theory Corey L. Brettschneider
POLS 1821Q S01 24443 Pol of Econ Dev'l in Asia Ashutosh Varshney
POLS 1822H S01 24446 Patronage and Corruption in Co Rebecca B. Weitz-Shapiro
POLS 1822I S01 24399 Geopolitics of Oil and Energy Jeffrey D. Colgan
POLS 1823J S01 24402 Freedom, Work, Leisure Alexander H. Gourevitch
POLS 1823Z S01 24407 Gender and Public Policy Susan L. Moffitt
POLS 1824C S01 24450 Political Communication Richard A. Arenberg
POLS 1824G S01 24397 Farms, Fisheries, and Politics Ross E. Cheit
POLS 1824M S01 24441 Pol of Race + Criminal Justice Paul F Testa
POLS 1824Q S01 24428 Intl Politics Climate Change TBD
POLS 1920 S01 24398 Senior Honors Thesis Preparatn Ross E. Cheit

Portuguese and Brazilian Studies
POBS 0400 S01 25208 Writing + Speaking Portuguese Naomi Parker
POBS 0620 S01 25217 Map Portugues-Speak Cldr:Prtgul Leonor Simas-Atelida

Religious Studies
RELS 0014 S01 24987 Jesus Jee Hee Han
RELS 0037 S01 24989 Sensing the Sacred Finnian M. Moore-Gerety
RELS 0045 S01 24990 Buddhism and Death Jason A Protass
RELS 0090F S01 24992 Friendship in the Anc't World Saul Olyan
RELS 0525 S01 24995 The History and Practice of Yo Finnian M. Moore-Gerety
RELS 0845 S01 25008 Religious Freedom in America Daniel Vaca
RELS 1610 S01 25010 Sacred Sites: Law, Politics, Nathaniel A. Berman

Science, Technology, and Society
STS 1000 S01 25150 Theories and Controversies Debbie Weinstein

Sociology
SOC 0200 S01 25618 Perspectives on Soci interactn Gregory C. Elliott
SOC 0300K S01 25737 Inequalities and Health Susan Short
SOC 1870E S01 25626 Alternatives to Violence Gregory C. Elliott

SOC 1870K S01 25625 Demographics and Development Michael White

South Asian Studies
SAST 0037 S01 25795 Culture in South Asian Rel Finnian M. Moore-Gerety
SAST 0525 S01 25793 The History & Practice of Yoga Finnian M. Moore-Gerety

Theatre Arts and Performance Studies
TAPS 0100 S01 25233 Playwriting I TBD
TAPS 0200 S01 25232 Playwriting II TBD
TAPS 1240 S01 25505 Perform Histriogrph/Theatr Hst Leon J A Hilton
TAPS 1250 S01 25506 Late Modern & Contemp Theatre J Dellecave
TAPS 1500H S01 25522 Advanced Playwriting TBD

University Courses
UNIV 1520 S01 25215 The Shaping of World Views Onesimo T. Almeida

Urban Studies
URBN 1870A S01 24416 American Culture and the City James A. Morone
URBN 1870T S01 24417 Transportation: Planning Persp Robert E. Azar

Visual Art
VISA 1800P S01 25770 Art/Work: Professn Professn Practice Heather Darcy Bhandari

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**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 disjunctures 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.
Fall AFR0090 S01 16996 TTh 1:00-2:20(08) (F. Hamlin)

**AFRI 0210. Afro Latin Americans and Blackness in the Americas.**
This course focuses on the position of Blacks in the national histories and societies of Latin America from slavery to the present-day. Emphasis is on a multidisciplinary engagement with issues and the exposure of students to the critical discussion of national images and realities about blackness and Africa-descended institutions and practices. The role of racial issues in national and transnational encounters and the consequences of migration of people and ideas within the hemisphere are explored.
Fall AFR0210 S01 16997 TTh 2:30-3:50(12) (A. Dzidzienyo)

**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 ascendancy to radical tendencies? And what forces contributed to the decline of these movements? This course seeks to answer these questions.
Fall AFR0670 S01 16998 Th 4:00-6:30(04) (B. Meeks)

**AFRI 0980. Fela Kuti: African Freedom from Afrobeat to Afrobeats.**
Miles Davis famously described Fela Kuti (1938-1997) as “the future of music.” Beyoncé’s attempt “to do something that sounds like Fela” saw her compose an unpublished 20-track album. Arguably Africa’s most prolific and controversial artist of the twentieth century, Fela continues to be invoked as musical genius and as icon of popular struggle. This course invites students to explore the complexities of Fela’s art and activism. We mobilize his life/work as a springboard for examining debates about African identity—from postcolonial masculinity to the creative logics of African cities, from contemporary African youth culture to the gendered politics of cultural memory.
Fall AFR0980 S01 17000 TTh 2:30-3:50(12) (A. Dzidzienyo)

**AFRI 0990. Black Lavender: Black Gay/Lesbian Plays/Dramatic Constructions in the American Theatre.**
Study of plays with African-American LGBTQ+ content, primarily manuscripts, with a focus on thesis paper development. Creative writing option. Participation in the Black Lavender Experience required. Cross-listed with TAPS. Gender and Sexuality.
Spr AFR0990 S01 25507 TTh 1:00-2:20(08) (E. Terry-Morgan)

**AFRI 1020C. The Afro-Luso-Brazilian Triangle.**
Examines three historical components of the South Atlantic in terms of history, culture, and contemporary political and economic consequences. European colonialism in Africa and Brazil constitutes the baseline for this exploration, but the long and tardy nature of Portuguese colonialism in Africa in comparison with other European colonial powers, especially in its post-World War II manifestations, is our starting point. Enrollment limited to 40.
Spr AFR1020C S01 25733 Th 4:00-6:30(17) (A. Dzidzienyo)

**AFRI 1020D. Race, Rights and Rebellion.**
Provides an in-depth examination of different kinds of social movements. Emphasis will be placed on the theoretical and methodological distinctions among the various kinds of social protests and social movement actors. From anti-slavery revolts to struggles for independence to anti-apartheid movements, key concepts will include power, resistance, subaltern, hegemony, identity politics and consciousness.
Spr AFR1020D S01 25509 TTh 10:30-11:50(01) (K. Perry)

**AFRI 1050A. Advanced RPM Playwriting.**
Third level of RPM Playwriting; for students that have successfully completed RPM Playwriting and Intermediate RPM Playwriting (workshop). Instructor permission.
Spr AFR1050A S01 25731 Th 4:00-6:30(17) (E. Terry-Morgan)

**AFRI 1050D. Intermediate RPM Playwriting.**
Second level of RPM Playwriting; for students that want to continue developing their RPM plays or want to begin a new project (workshop).
Spr AFR1050D S01 25732 Th 4:00-6:30(17) (E. Terry-Morgan)

**AFRI 1050E. RPM Playwriting.**
Research-to-Performance Method (RPM) Playwriting guides students through the process of developing new plays that are informed by scholarly research (workshop).
Spr AFR1050E S01 25510 Th 4:00-6:30(17) (E. Terry-Morgan)

**AFRI 1060E. West African Writers and Political Kingdom.**
Do West African writers have a role to play in the changing political landscape of their countries? An examination of the ways and means through which a select group of West African writers have dealt with issues that relate to the role of the state in the management of individual and group relations, the politics of gender, civil and military relations, and the construction of new forms of civil society. Enrollment limited to 20.
Spr AFR1060E S01 25512 W 3:00-5:30(10) (A. Dzidzienyo)

**AFRI 1060U. An Introduction to Africa.**
Africa invokes myriad images in the global imagination. It figures in debates on the evolution of humans; in the formation of capitalism, and even as a counterpoint to discourses on human progress. This course interrogates how “Africa” gets mobilized in popular discourse in the US and beyond. How might we reconcile the idea of Africa with contemporary conditions of the African continent? We will not only examine Africa through a broad range of disciplinary perspectives; but also become familiar with social, cultural, political and economic diversity of the African continent. We will engage the disciplines of history, economics, politics, cultural studies and gender studies among others.
Fall AFR1060U S01 17001 M 3:00-5:30(05) (D. Ayobade)

**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.
Spr AFR1090 S01 25513 TTh 2:30-3:50(11) (F. Hamlin)

**AFRI 1100X. Black Speculative Fiction: World-Making and Alternative Universes, Science Fiction and Fantasy.**
This class surveys the genre, including the work of George Schuyler, Nalo Hopkinson, Samuel R. Delany, N.K. Jemison, Octavia Butler, Cosion Whitehead, and Tananarive Due, along with everything related, from comic books to album covers to filmic re-writings of canonical science fiction and fantasy works. The goal is to understand the history of the genre, its relationship to histories of anti-blackness and ideologies of black liberation, and its contributions to speculative fiction more broadly.
Spr AFR1100X S01 25514 MW 8:30-9:50(02) (M. Guterl)

For up-to-date course information please visit Courses@Brown.edu (https://cabs.brown.edu).
AFRI 1110. Voices Beneath the Veil.
VBV is an interdisciplinary exploration of African-American history and cultures through the analyses of Black authored plays from 1858 to the present. The course focuses on the development of a thesis paper, which includes an incremental re-writing process.
Fall AFR1110 S01 17002 TTh 10:30-11:50(13) (E. Terry-Morgan)

AFRI 1150. Afro-Caribbean Philosophy.
An introduction to the field of Afro-Caribbean philosophy. The first half focuses on the history of the field, identifying its African background and surveying some of its major schools, such as the Afro-Christians, the poeticians, the historicists, and existentialists. The second half consists of a more intensive comparative focus on the ontologies and epistemologies of two of these schools.
Fall AFR1150 S01 25516 MWF 2:00-2:50(07) (P. Henry)

AFRI 1210. Afro-Brazilians and the Brazilian Polity.
Explores the history and present-day conditions of Afro-Brazilians, looking specifically at the uses of Africana in contemporary Brazil, political and cultural movements among Afro-Brazilians, domestic politics and its external dimensions, and Brazilian race relations within a global comparative framework. Texts from a variety of disciplines. A reading knowledge of Portuguese is not required but students so advantaged should inform the instructor.
Fall AFR1210 S01 17003 W 3:00-5:30(17) (A. Dzidziienyo)

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.
Spr AFR1360 S01 25517 M 3:00-5:30(13) (B. Meeks)

AFRI 1920. Health Inequality in Historical Perspective.
Seminar takes a historical perspective to explore causes of health inequality in the US. Draws on studies from the 19th century-present. Examines socio-political and economic context of health/disease, focusing on how race, class, and gender shape the experience of health, disease causality, and public health responses. Includes health consequences of immigration, incarceration, race-based medicine, the Chicago heatwave, and Katrina. Enrollment restricted to 20, second and third-year students.
Fall AFR1920 S01 17004 W 3:00-5:30(17) (L. Braun)

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.
Spr AFR1970 S01 24252 Arranged 'To Be Arranged'

This course will be a close reading of the various ideas, theories and practices of the thinkers, writers, artists and activists whose work and practices have constituted an Africana intellectual tradition. In conducting this review we will examine questions around the formation and the history of thought and intellectual traditions in general. We will also think about the various fields of knowledge which have shaped Africana thought. The course therefore will spend some time working through the different meanings of intellectual work and critical thought and theory. Enrollment limited to 12 graduate students.
Fall AFR2001 S01 17005 T 4:00-6:30(09) (P. Henry)

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 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 AFR2002 S01 25519 F 10:00-12:30 (L. Biggs)

AFRI 2104. Theorizing the Black Diaspora.
This seminar will focus on the theorization of the black diaspora as a way to explore the various articulations of colonialism, gendered racism and resistance against that racism throughout African-descendant communities. Course readings will highlight the scholarship of black women who have contributed to the internationalization of radical black vis-a-vis theories of diaspora, transnationalism, transformative politics, identity formation, and community. This course is open to upper level concentrators in Africana Studies by permission of instructor. Enrollment limited to 20.
Spr AFR2104 S01 25521 W 10:00-12:30 (K. Perry)

AFRI 2450. Exchange Scholar Program.
Fall AFR2450 S01 15438 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 AFR2970 S01 15439 Arranged 'To Be Arranged'
Spr AFR2970 S01 24251 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 AFR2990 S01 15440 Arranged 'To Be Arranged'
Spr AFR2990 S01 24252 Arranged 'To Be Arranged'

AFRI XLIST. Courses of Interest to Concentrators in Africana Studies.

American Studies

AMST 0170D. Musical Youth Cultures.
This sophomore seminar explores how and why young people form communities around popular music. We will discuss readings and documentary films about musical subcultures, media circulation, and how young people make music meaningful in their lives. The course requires critical engagement with a variety of popular music genres and cultures, as well as reflection on our own musical production and consumption practices. Major topics include punk, hip-hop, metal, rock, and club music; popular music and intersectional identity (including race, gender, sexuality, ethnicity, and disability); fan communities; activist musical collectives; music-sharing technologies; the politics of style; and ethnohistory and methodology.
Fall AMST0170CS01 24502 TTh 1:00-2:20(08) (K. Miller)

This course introduces the study of the design, work, material culture and history through the construction of a traditional workboat. As the class builds the boat we’ll gain a hands-on understanding of issues of design, skill, and workmanship. At the same time, we’ll do historical research and visit museums to gain insight into the history of small craft and their builders and users from the nineteenth century to the present, and also consider philosophical issues of tradition, creativity, and knowledge in engineering and making. Weekly writing assignments, including a journal, will connect hands-on work and research.
Fall AMST1220 S01 15804 WF 10:00-11:50 (S. Lubars)

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
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 15738 MWF 11:00-11:50(16) (E. Shih)

AMST 1611M. Trauma and the Shame of the Unspeakable: The Holocaust, American Slavery, and Childhood Sexual Abuse.
The problem of representing traumatic experience has been raised by witnesses and survivors, psychoanalysts, psychologists, sociologists, philosophers, and artists. This course compares three historical situations--The Holocaust, American slavery, and childhood sexual abuse--by reading histories, memoirs, and fictions, and analyzing material cultural artifacts such as memorials. Questions about the relation of individual trauma to collective and cultural trauma will be pursued through readings that will include Freud, Jeffrey Alexander, Judith Herman, Dominique La Capra, Primo Levi, Jill Christman, Harriet Jacobs, Toni Morrison, Gayle Jones and Jean Spiegelman.
Spr AMST1611M S01 24501 MWF 11:00-11:50(04) (B. Haviland)

AMST 1700I. Community Engagement with Health and the Environment.
This junior seminar explores how local community organizations are taking up issues of health and the environment in culturally relevant contexts. We will examine issues of environmental justice, health disparities and the basic tenets of community based participatory research. We will then partner with a local community organization and, depending on need, assist in the design, implementation, and/or evaluation of a program designed to improve the local environment and/or health status of the community. Enrollment limited to 20 juniors and seniors.
Fall AMST1700I S01 15750 M 3:00-5:30(05) (E. Hoover)

AMST 1700N. Public Memory: Testimony, Memorial, Ritual.
This seminar explores theories and practices of public memory by studying three related topics and media. Questions about the relation of history and memory are pursued by reading verbal testimony. Questions about commemoration are developed by looking at material objects and public spaces. Questions about embodied memory are explored by witnessing trauma, performance, and ritual. Readings will include Freud, Nora, Derrida, Halbwachs, Laub, Savage, Connerton, Taylor and Young. Rhode Island will provide our field for understanding how public memory works in verbal, material, and embodied signs of the past and present.
Spr AMST1700N S01 24500 M 3:00-5:30(13) (B. Haviland)

AMST 1800. Honors Seminar.
This seminar is for second-semester junior American Studies and Ethnic Studies concentrators who are interested in writing an honors thesis in their senior year. The outcome of this seminar will be a proposal for the honors thesis along with a bibliography and a research plan and schedule. Topics covered will be the research methods associated with different disciplines; how to make the thesis interdisciplinary; integrating public projects and new media into a thesis. Open to juniors concentrating in American Studies and Ethnic Studies. Enrollment limited to 20. S/NC
Spr AMST1800 S01 24496 F 3:00-5:30(15) (L. Alvarado)

AMST 1901D. Motherhood in Black and White.
Focuses on American motherhood with respect to race; under slavery; at the turn of the 20th century; and in contemporary society. Texts include fiction, film, history, feminist and psychoanalytic theory, e.g. "Uncle Tom's Cabin," "Incidents in the Life of a Slave Girl," "Imitation of Life," and "The Reproduction of Mothering." Enrollment limited to 20.
Fall AMST1901D S01 15744 M 3:00-5:30(05) (B. Haviland)

AMST 1906U. Culture as History: Making the 20th Century United States.
This interdisciplinary course explores selected currents in U.S. cultural history from the late nineteenth century to the end of the twentieth century. Thematic explorations trace the historical development of American cultural forms and practices, showing how transformations in communications, media, and consumption shaped Americans' experience of capitalism and market expansion, ideas of self and society, social conflict around questions of race, class, gender, nationalism and empire, as well as immigration, migration, and social movements of both the left and right. Our broad goal will be to understand how culture came to shape how historical change unfolded in this period.
Spr AMST1906U S01 25424 Th 4:00-6:30(17) (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 15745 W 3:00-5:30(17) (A. Abdur-Rahman)

AMST 2020E. Introduction to Interdisciplinary American Studies.
This graduate-level course offers an introduction to the discipline of American Studies through a close reading of four important texts representing different methodologies and theories within the discipline. We will also read a series of seminal articles focused on transnationalism, highlighting the significance of border-crossings to the American experience throughout the semester. The goal of the course is to familiarize students with pedagogical approaches within American Studies, through active seminar discussions, fieldtrips within the community, and work with material and visual media as well as secondary texts.
Fall AMST2020S01 15751 W 9:00-11:30 (M. Gutier)

AMST 2201. Creativity/Practice/Habit.
This seminar examines the mutually reinforcing relationship among creativity, practice, and habit. I want to think about creativity writ large, and how we can enhance our creative projects through practice and habit. I am as interested in practitioners writing about their creative habits and practices (e.g. Twyla Tharp’s “The Creative Habit” and Anna Deavere Smith’s “Letters to a Young Artist”) as I am in scholars analyzing creativity and habit (e.g. David Bohm’s “On Creativity” and Charles Duhigg’s “The Power of Habit”). The ideal student for this course is a creative interested in developing their practice and sharing work in class.
Fall AMST2201 S01 16094 M 3:00-5:30(05) (R. Rodriguez)

AMST 2220B. Culture, Politics and the Metropolitan-Built Environment.
This interdisciplinary readings seminar will provide graduate students with an introduction to recent scholarly work on 20th century and contemporary cities and suburbs. Readings will be drawn from cultural, political, social, and intellectual history, American Studies, political science, sociology, and ethnography. They will investigate the interconnections between urban and suburban development and the role of ideology, class, gender, race, and globalization in shaping planning, architecture, culture, policy, politics, and social movements. This class is open to students in American Studies, History, Sociology, Political Science, Anthropology, and other disciplines who find themselves interested in multi-disciplinary approaches to the study of cities and suburbs.
Fall AMST2220B S01 15743 Th 4:00-6:30(04) (S. Zipp)

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
AMST 2220T. Slavery in the Recent American Imagination.
This seminar explores the representations of antebellum slavery in contemporary mass culture. Manifestations of popular interest include neo-slave narratives and Broadway shows, plantation weddings and tourist-friendly reenactments, documentary-style television dramas and time-travelling speculative fictions and films, radical artistic interpolations and the destruction or preservation of memorials. What disciplinary and interdisciplinary methodologies can frame an understanding of these representations? What politics of memory enables this fascination? And what, lastly, is the relationship between this material and those aforementioned regimes of enslavement – between the contemporary fascination with antebellum slavery and the very real and continued existence of racialized bound labor?
Fall AMST2220T S01 16495 T 9:00-11:45 (M. Guterrf)

AMST 2450. Exchange Scholar Program.
Fall AMST2450 S01 15441 "To Be Arranged"

This course explores the mechanics of a doctorate degree in American Studies. We will explore the constitution of our field through the elaboration of field 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. S/NC
Fall AMST2520 S01 15747 T 9:30-12:00 (D. Weinstein)

AMST 2525. American Studies MA Capstone.
This course is required for all Masters students in American Studies who are in their final semester. Enrolled students will work with American Studies faculty to complete an interdisciplinary research paper or project of their choice.
Spr AMST2525 S01 24498 Th 4:00-6:30(17) (E. Hu-Dehart)

This course surveys public humanities work, including cultural heritage preservation and interpretation, museum collecting and exhibition, informal education, and cultural development. It also provides an overview of the contexts of that work in nonprofit organizations, including governance, management, and development.
Fall AMST2540 S01 15740 TTh 10:30-11:50(13) (S. Lubar)

AMST 2650. Introduction to Public Humanities.
This class, a foundational course for the MA in Public Humanities with preference given to American Studies graduate students, will address the theoretical bases of the public humanities, including topics of history and memory, museums and memorials, the roles of expertise and experience, community cultural development, and material culture. Enrollment limited to 20 graduate students.
Spr AMST2650 S01 24737 M 3:00-5:30(13) (M. Martinez)

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: AMCV 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 2923. 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.
Fall AMST2990 S01 15442 "To Be Arranged"
Spr AMST2990 S01 24253 "To Be Arranged"

Ethnic Studies

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.
Fall ETHN1000 S01 15749 MW 11:00-11:50(16) (A. Keene)

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.
Fall ETHN1200BS S01 15746 W 3:00-5:30(17) (A. Keene)

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.
Spr ETHN1200C S01 24506 TTh 1:00-2:20(08) (K. Escudero)

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
ETHN 1200G. Introduction to Latina/o/x Cultural Studies.  
This course serves as an introduction to the many discourses that structure and challenge what it means to be Latina/o/x in the United States. Through historically situated critical analysis of Latina/o/x cultural production, including theoretical essays, literature, and film, we will meditate on the major issues that shape the Latina/o/x experience. We will study how Latinidad—the sense of being Latin/o/x—is constructed as an identity and how that identity varies across origin, place, and time. Major themes we will explore include the legacies of U.S. colonialism; cultural nationalism, citizenship, immigration and exile; labor and class; race and ethnicity; and gender and sexuality.  
Fall ETHN1200GSO1 15939 M 3:00-5:30(05) (L. Alvarado)

ETHN 1200L. History and Resistance in Representations of Native Peoples.  
Throughout history, Native peoples have been portrayed through a stock set of stereotypes such as savage warriors, Indian princesses, or mystical shamans. These images surround us in advertising, news media, Hollywood, sports mascots, and Halloween costumes. This course will examine the foundations of these representations and their connections to colonization, with a focus on contemporary and ongoing examples, from Johnny Depp’s Tonto, Urban Outfitters’ “Navajo” products, to JK Rowling’s “History of Magic in North America,” with a focus on the ways Native peoples are taking back and reshaping Native representations through activism, social media, art, design, film, and more.  
Spr ETHN1200LSO1 24505 Th 4:00-6:30(17) (A. Keene)

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.  
Spr ETHN1200KSO2 25470 MWF 1:00-1:50(06) (E. Hoover)

ETHN 1650B. Asian Americans and the Racial State: Exclusion and Incarceration.  
The exclusion of Chinese from naturalization and immigration (from 1870 to 1943) and the wholesale incarceration of Japanese Americans during WWII will remain important touchstones for thinking about the Asian American experience and lenses through which to examine current struggles over immigration, mass incarceration and race in North America.  
Fall ETHN1650BSO1 15754 F 3:00-5:30(11) (R. Lee)

ETHN 1650G. Reading Closely.  
We experience the world in and through language, or, as Jacques Derrida famously noted, there is nothing outside of the text. This is a course designed to introduce you to and/or sharpen your close reading skills. The phrase “close reading” has its origins in literary studies, but it is a methodological tool that can help you unlock any number of written texts and oral speech acts. In an era of “fake news” and near constant assertion with little substantiation of arguments, we more than ever need to be close readers of complex and seemingly simple speech acts.  
Spr ETHN1650GSO1 24692 TTh 10:30-11:50(09) (R. Rodriguez)

In many Native American communities the push to “eat local” is often based on reviving a traditional food culture as well as a way of promoting better health. This class explores the disparate health conditions faced by Native communities, and the efforts by many groups to address these health problems through increasing community access to traditional foods, whether by gardening projects or a revival of hunting and fishing traditions. We will examine the ways in which Native food movements have converged and diverged from general American local food movements, and the struggles they often face in reviving treaty-guaranteed food ways.  
Spr ETHN1750BSO1 24507 W 3:00-5:30(10) (E. Hoover)

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 in 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.  
Fall ETHN1750CSO1 15742 W 3:00-5:30(17) (E. Hu-Dehart)

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 an 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 contributions and challenges that Latina feminists bring to dominant discourses of race, gender, sexuality, and nationalism, among others.  
Fall ETHN1750LSO1 15741 F 3:00-5:30(11) (L. Alvarado)

ETHN 1750S. Extravagant Texts: Reading the World Through Asian American Literature.  
In this course we study a body of writings that self-consciously move beyond the topics and genres which Asian American literature has traditionally been associated—that are, in Maxine Hong’s Kingston’s formulation, “extravagant.” We explore works that adopt a transnational or diasporic perspective and that are written in such genres as magical realism, speculative fiction, and poetry. In addition to more conventional concerns like racism or immigration, these works also address such issues as empire, war, mixed-race identity, environmentalism, adoption, and sexuality.  
Spr ETHN1750SSO1 25427 TTh 2:30-3:50(11) (D. Kim)

ETHN 1800. Honors Seminar (AMST 1800).  
Interested students must register for AMST 1800.  
Spr ETHN1800 S01 25468 Arranged ‘To Be Arranged’

ETHN 1900E. Senior Seminar in Ethnic Studies.  
No description available.  
Spr ETHN1900ESO1 24495 M 3:00-5:30(13) (E. Shih)

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.

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

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 cultural anthropology’s findings and compartmentalization in other cultures to its conclusions and conduct in our own. No prerequisites.  
Spr ANTH0100 S01 25742 MW 1:00-1:50(06) (M. Lennon)

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
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.
Fall ANTH0300 S01 16481 MWF 11:00-11:50(16) (K. Mason)

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.
Fall ANTH0500 S01 16480 MWF 10:00-10:50(14) (P. VanValkenburgh)

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.
Spr ANTH1150 S01 25765 TTh 10:30-11:50(09) (N. Al-Ali)

ANTH 1201. Introduction to Geographic Information Systems and Spatial Analysis.
This course offers an introduction to the concepts and techniques of Geographic Information Systems (GIS). Through weekly lab assignments and work on independent projects, students develop skills in cartography and coordinate systems, spatial database design, image processing, basic spatial analysis, hydrological modeling, and three-dimensional modeling. Discussions and case material draw primarily from the application of GIS in archaeology, anthropology, and cultural geography, including the study of archival materials and the ethics of geographic representation. Provides foundation for upper division coursework in spatial analysis. Software focuses on ESRI products (ArcMap, ArcScene, ArcCatalog, ArcGIS Pro).
Spr ANTH1201 S01 25765 MW 3:00-4:20(10) (P. VanValkenburgh)

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 also 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.
Fall ANTH1236 S01 16486 T Th 9:00-10:20(02) (R. Carter)

ANTH 1250. Film and Anthropology: Identity and Images of Indian Societies.
The course examines representation of Indian society in film and anthropological literature. We compare how gender, national identity, religious practices, and historical events are portrayed in films and anthropological literature. We will explore the relationship between visual and textual, showing how film reflects and makes comprehensible anthropological concepts of Indian culture, and creates different images of the society.
Spr ANTH1250 S01 25771 TTh 10:30-11:50(09) (L. Fruzzetti)

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.
Fall ANTH1300 S01 16485 M 3:00-5:30(05) (L. Glasser)

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 25758 M 3:00-5:30(13) (L. Glasser)

ANTH 1302. Politics and Symbols.
It is impossible to understand politics without grasping the key role played by symbols, myth, and ritual. This course examines how political actors manipulate symbols and how they devise and utilize myths and rituals to win support. Through such symbolic activities, political reality is created, and political groups and identities formed. We look at examples throughout the world and throughout history, but pay special attention to the powerful symbols, myths, and rites employed by U.S. President Donald Trump, his supporters, and his opponents.
Fall ANTH1302 S01 16487 TTh 10:30-11:50(13) (D. Kertzer)

ANTH 1505. Vertical Civilization: South American Archaeology from Monte Verde to the Inkas.
This course offers an introduction to the archaeology of indigenous south American Civilizations, from the peopling of the continent around 13,000 years ago, to the Spanish Invasion of the 16th Century C.E. Throughout, we seek to understand the often unique solutions that South America indigenous peoples developed to deal with risk and to make sense of the world around them. Course lectures and discussions focus on recent research and major debates. Weekly sections draw on viewings of artifacts and manuscripts from the Haffenreffer Museum and the John Carter Brown Library.
Spr ANTH1505 S01 25809 TTh 2:30-3:50(11) (P. VanValkenburgh)

ANTH 1624. Indians, Colonists, and Africans in New England.
The course explores the colonial and capitalist transformation of New England's social and cultural landscapes following European contact. Using archaeology as critical evidence, we will examine claims about conquest, Indian Extinction, and class, gender and race relations by studying the daily lives and interactions of the area's diverse Native American, African American, and European peoples.
Spr ANTH1624 S01 25769 TTh 10:30-11:50(09) (P. Rubertone)

ANTH 1650. Ancient Maya Writing.
Nature and content of Mayan hieroglyphic writing, from 100 to 1600 CE. Methods of decipherment, introduction to textual study, and application to interpretations of Mayan language, imagery, world view, and society. Literacy and Mesoamerican background of script.
Spr ANTH1650 S01 25751 MWF 1:00-1:50(06) (S. Houston)
ANTH 1720. The Human Skeleton.
More than simply a tissue within our bodies, the human skeleton is a gateway into narratives of the past—from the evolution of our species to the biography of individual past lives. Through lecture and hands-on laboratory, students will learn the complete anatomy of the human skeleton, with an emphasis on the human skeleton in functional and evolutionary perspective. We'll also explore forensic and bioarchaeological approaches to the skeleton. By the course conclusion, students will be able to conduct basic skeletal analysis and will be prepared for more advanced studies of the skeleton from medical, forensic, archaeological, and evolutionary perspectives.
Fall ANTH1720 S01 17159 TTh 10:30-11:50(13) (A. Scherer)
Spr ANTH1720 S01 25762 TTh 9:00-10:20(01) (A. Cormier)

ANTH 1848. Ethnography + Social Critique.
This class will study classic and contemporary anthropological ethnographies—as well as studies from sociology, journalism, and history—that achieve ethnographic results, but will require discussion to determine what they “are.” We will examine the methods involved in research for the books and articles and how the ethnographies were written. Ethnographies will be chosen for their importance in anthropology and other fields, and will cover a broad range of topical and geographic contexts. This class is to study ethnographies more than to make them. Assignments will include practicing certain methods that are often employed by ethnographers.
Fall ANTH1848 S01 16489 T 4:00-5:30(09) (M. Gutmann)

ANTH 1901. Anthropology in 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 Haffenreffer 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.
Fall ANTH1901 S01 16493 F 3:00-5:30(11) (R. Preucel)

ANTH 1910B. Anthropology of Place.
The anthropology of place serves as a unifying theme for the seminar by bridging anthropology’s subdisciplines and articulating with other fields of knowledge. Through readings and discussion, students will explore how place permeates people’s everyday lives and their engagement with the world, and is implicit in the meanings they attach to specific locales, their struggles over them, and the longings they express for them in rapidly changing and reconfigured landscapes. Enrollment limited to 20.
Spr ANTH1910B S01 25780 Th 4:00-6:30(17) (P. Ruberton)

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 25778 W 4:00-6:30 (L. Fruzzetti)

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

A seminar exploring fundamental theoretical and ethnographic currents in 20th- and 21st-century cultural anthropology.
Spr ANTH2010 S01 25779 W 10:00-12:30 (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 25740 M 9:00-11:30 (J. Leinaweaver)

ANTH 2045. Proposal Writing Workshop for Anthropological Fieldwork.
This course is designed for third-year graduate students in any subfield of anthropology or closely related fields who are writing grant proposals for dissertation research. Student grant proposals will be pre-circulated and workshoped. Students will gain familiarity with the format for writing successful proposals, with the strategies needed to operationalize them, and with the everyday academic labor of both offering and responding to substantive feedback.
Fall ANTH2045 S01 16482 M 12:00-2:30 (R. Carter)

ANTH 2210. Analysis of Social Structure.
This course will discuss the analysis of kinship and the construction of the person cross culturally.
Fall ANTH2210 S01 17165 T 9:00-11:50 (J. Leinaweaver)

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 biology, gender and the body, biotechnology, bioethics, caregiving and doctoring, and the global burden of disease.
Fall ANTH2230 S01 16490 W 2:00-4:30 (K. Mason)

ANTH 2300. Anthropological Demography.
A seminar devoted to the investigation of the interface of anthropology (especially sociocultural anthropology) and demography. A wide variety of demographic topics—fertility, mortality, marriage, migration—are considered, and the links between anthropological and demographic writings on and approaches to these areas are examined.
Spr ANTH2300 S01 25749 M 3:00-5:30(13) (D. Kertzer)

ANTH 2450. Exchange Scholar Program.
Fall ANTH2450 S01 15443 Arranged "To Be Arranged"
Spr ANTH2450 S01 24254 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 16483 M 3:00-5:30(05) (S. Houston)

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 25766 T 1:30-3:50 (P. Faudree)

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 15444 Arranged "To Be Arranged"
Spr ANTH2970 S01 24255 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 15445 Arranged "To Be Arranged"
Spr ANTH2990 S01 24256 Arranged "To Be Arranged"

For up-to-date course information please visit Courses@Brown.edu (https://cabs.brown.edu).
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. Prerequisite: MATH 0100 or its equivalent.
Fall APMA0160 S01 25483 MWF 9:00-9:50(02) (M. Fabien)

APMA 0200. Introduction to Modelling.
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 16977 TTh 10:30-11:50(13) (C. Dafermos)

APMA 0300. Methods of Applied Mathematics I, II.
This course will cover mathematical techniques involving ordinary differential equations used in the analysis of physical, biological, and economic phenomena. The course emphasizes established methods and their applications rather than rigorous foundation. Topics include: first and second order differential equations, an introduction to numerical methods, series solutions, and Laplace transformations.
Fall APMA0330 S01 16978 MWF 9:00-9:50(01) "To Be Arranged"
Spring APMA0330 S01 25484 MWF 2:00-2:50(07) (Y. Guo)

APMA 0340. Methods of Applied Mathematics I, II.
Mathematical techniques involving differential equations used in the analysis of physical, biological and economic phenomena. Emphasis on the use of established methods, rather than rigorous foundations. I: First and second order differential equations. II: Applications of linear algebra to systems of equations; numerical methods; nonlinear problems and stability; introduction to partial differential equations; introduction to statistics. Prerequisite: MATH 0100, 0170, 0180, 0190, 0200, or 0350, or advanced placement.
Fall APMA0340 S01 16979 MWF 12:00-12:50(15) (V. Dobrushkin)
Spring APMA0340 S01 25486 MWF 12:00-12:50(05) (V. Dobrushkin)

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 theoretical foundations of differential equations. Format: lectures and problem-solving workshops.
Prerequisites: MATH 0100, MATH 0170, MATH 0180, MATH 0190, MATH 0200, MATH 0350 or advanced placement. MATH 0520 (can be taken concurrently).
Fall APMA0350 S01 16980 TTh 1:00-2:20(08) (J. Mallet-Paret)
Spring APMA0350 S01 25542 TTh 10:30-11:50(09) "To Be Arranged"

This course builds on APMA 0350 which covers ordinary differential equations and systems involving a single independent variable. We will look at processes with two or more independent variables formulated as partial differential equations (PDE) using concepts from multivariable calculus. We will see how problems are described quantitatively as PDEs, how seemingly unrelated contexts can result in similar equations; and develop methods for solution using analytical, numerical or qualitative methods. Contexts include first order equations; the second order wave equation and problems involving diffusion processes; steady state balances for systems in two or three dimensions; together with insights from theory.
Fall APMA0360 S01 17023 MWF 1:00-1:50(06) "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. No prerequisites.
Spring APMA0650 S01 25534 MWF 3:00-4:20(10) (N. Kailhnsa)

APMA 1070. Quantitative Models of Biological Systems.
Quantitative dynamic models help understand problems in biology and there has been rapid progress in recent years. The course provides an introduction to the concepts and techniques, with applications to population dynamics, infectious diseases, enzyme kinetics, aspects of cellular biology. Additional topics covered will vary. Mathematical techniques will be discussed as they arise in the context of biological problems. Prerequisites: APMA 0330, 0340 or 0350, 0360, or written permission.
Spring APMA1070 S01 25487 MWF 9:00-9:50(02) (B. Sandstedt)

APMA 1080. Inference in Genomics and Molecular Biology.
Massive quantities of fundamental biological and geological sequence data have emerged. Goal of APMA1080 is to enable students to construct and apply probabilistic models to draw inferences from sequence data on problems novel to them. Statistical topics: Bayesian inferences; estimation; hypothesis testing and false discovery rates; statistical decision theory; change point algorithm; hidden Markov models; Kalman filters; and significances in high dimensions. Prerequisites: One of following: APMA1650, APMA1655, MATH1610, CSC1450; and one of the following: AMPA0160, CSCI0040, CSCI0150, CSCI0170, CSCI0190, CLPS0950, wave for students with substantial computing experience and their acceptance of responsibility for their own computing.
Fall APMA1080 S01 16981 TTh 10:30-11:50(13) (C. Lawrence)

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. Basic programming skills at the level of APMA 16 or CSCI 40 are assumed.
Spring APMA1160 S01 25489 MWF 10:00-10:50(03) (J. Darbon)

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.
Fall APMA1170 S01 16982 MWF 10:00-10:50(14) (J. Darbon)
Basic probabilistic problems and methods in operations research and
game theory. Method of problem formulation and solution.
Markov chains, birth-death processes, stochastic service and queueing
systems, the theory of sequential decisions under uncertainty, dynamic
programming. Applications. Prerequisite: APMA 1650, 1655 or MATH
1610, or equivalent.
Fall APMA1200 S01 25490 TTh 9:00-10:20(01) (A. Matzavinos)

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.
Fall APMA1210 S01 16993 TTh 9:00-10:20(02) (C. Klivans)

APMA 1330. Methods of Applied Mathematics.
Review of vector calculus and curvilinear coordinates. Partial differential
equations. Heat conduction and diffusion equations, the wave equation,
Laplace and Poisson equations. Separation of variables, special functions,
Fourier series and power series solution of differential equations. Sturm-
Liouville problem and eigenfunction expansions.
Fall APMA1330 S01 16983 MWF 1:00-1:50(06) (H. Dong)

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.
Spr APMA1360 S01 25491 MWF 10:00-10:50(03) (Y. Shin)

APMA 1650. Statistical Inference I.
APMA 1650 is an integrated first course in mathematical statistics. The first half of APMA 1650 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.
Prerequisite: One year of university-level calculus. At Brown, this
corresponds to MATH 0100, MATH 0170, MATH 0180, MATH 0190, MATH
0200, or MATH 0350. A score of 4 or 5 on the AP Calculus BC exam is
also sufficient.
Fall APMA1650 S01 17022 TTh 9:00-10:20(02) (N. Kahlina)
Spr APMA1650 S01 25545 MWF 11:00-11:50(04) (S. Punshon-Smith)

APMA 1655. Statistical Inference II.
Students may opt to enroll in 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.
Prerequisite (for either version): MATH 0100, 0170, 0180, 0190, 0200, or
0350
Fall APMA1655 S01 16984 MWF 11:00-11:50(16) (Y. Shin)

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. Prerequisite: APMA
1650, 1655 or equivalent, basic linear algebra.
Spr APMA1660 S01 25492 TTh 2:30-3:50(11) (C. Lawrence)

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: A calculus-
based course in probability or statistics (e.g. APMA1650 or MATH1610) is
required, and some programming experience is strongly recommended.
Prerequisite: MATH 0100, 0170, 0180, 0190, 0200, or 0350, or equivalent
placement.
Fall APMA1690 S01 16994 MWF 2:00-2:50(07) (S. Geman)

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. Prerequisite: one course in probability.
Spr APMA1710 S01 25493 TTh 2:30-3:50(11) (P. Dupuis)

APMA 1720. Monte Carlo Simulation with Applications to Finance.
The course will cover the basics of Monte Carlo and its applications to
financial engineering: generating random variables and simulating
stochastic processes; analysis of simulated data; variance reduction
techniques; binomial trees and option pricing; Black-Scholes formula;
portfolio optimization; interest rate models. The course will use MATLAB
as the standard simulation tool. Prerequisites: APMA 1650 or MATH 1610
Spr APMA1720 S01 25730 MWF 1:00-1:50(06) (J. Guzman)

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
application. Topics include: Gibbs ensembles and their relation to
maximum entropy, large deviations, exponential models, and information
theory; statistical estimation and the generative, discriminative and
algorithmic approaches to classification; graphical models, dynamic
programming, MCMC computing, parameter estimation, and the EM
algorithm. For 2,000-level credit enroll in 2610; for 1,000-level credit enroll
in 1740. Rigorous calculus-based statistics, programming experience,
and strong mathematical background are essential. For 2610, some graduate
level analysis is strongly suggested.
Spr APMA1740 S01 25494 TTh 10:30-11:50(09) (S. Geman)

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 2080. Inference in Genomics and Molecular Biology.
Sequencing of genomes has generated a massive quantity of fundamental
biological data. We focus on drawing traditional and Bayesian statistical
inferences from these data, including: motif finding; hidden Markov
models; other probabilistic models, significances in high dimensions;
and functional genomics. Emphasis is on the application of probability
theory to inferences on data sequence with the goal of enabling students
to independently construct probabilistic models in setting novel to them.
Statistical topics: Bayesian inference, estimation, hypothesis testing and
false discovery rates, statistical decision theory. For 2,000-level credit
enroll in 2080; for 1,000-level credit enroll in 1080.
Fall APMA2080 S01 17037 TTh 10:30-11:50(13) (C. Lawrence)

APMA 2110. Real Analysis.
Provides the basis of real analysis which is fundamental to many of the
other courses in the program: metric spaces, measure theory, and the
theory of integration and differentiation.
Fall APMA2110 S01 16987 MWF 10:00-10:50(14) (H. Dong)
APMA 2120. Hilbert Spaces and Their Applications.
A continuation of APMA 2110: metric spaces, Banach spaces, Hilbert spaces, the spectrum of bounded operators on Banach and Hilbert spaces, compact operators, applications to integral and differential equations.
Spr APMA2120 S01 25495 TTh 9:00-10:20(01) (C. Dafermos)

Fall APMA2190 S01 16988 TTh 2:30-3:50(12) (G. Menon)

Spr APMA2200 S01 25496 MWF 11:00-11:50(04) (G. Menon)

APMA 2450. Exchange Scholar Program.
Fall APMA2450 S01 15446 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 17129 W 3:00-5:30(17) (J. Guzman)

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 25497 W 3:00-5:30(10) (G. Kiamiadakis)

APMA 2570A. Numerical Solution of Partial Differential Equations III.
We will cover spectral methods for partial differential equations. Algorithm formulation, analysis, and efficient implementation issues will be addressed. Prerequisite: APMA 2550 or equivalent knowledge in numerical methods.
Fall APMA2570AS01 17130 M 3:00-5:30(05) (M. Ainsworth)

APMA 2580B. Computational Fluid Dynamics for Compressible Flows.
An introduction to computational fluid dynamics with emphasis on compressible flows. We will cover finite difference, finite volume and finite element methods for compressible Euler and Navier-Stokes equations and for general hyperbolic conservation laws. Background material in hyperbolic partial differential equations will also be covered. Algorithm development, analysis, implementation and application issues will be addressed. Prerequisite: APMA 2550 or equivalent knowledge in numerical methods.
Spr APMA2580BES01 25498 M 3:00-5:30(13) (C. Shu)

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 the generative, discriminative and algorithmic approaches to classification; graphical models, dynamic programming, MCMC computing, parameter estimation, and the EM algorithm. For 2,000-level credit enroll in 2610; for 1,000-level credit enroll in 1740. Rigorous calculus-based statistics, programming experience, and strong mathematical background are essential. For 2610, some graduate level analysis is strongly suggested.
Spr APMA2610 S01 25499 TTh 10:30-11:50(09) (S. Geman)

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 16989 TTh 1:00-2:20(08) (H. Wang)

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.
Spr APMA2640 S01 25527 TTh 1:00-2:20(08) (H. Wang)

APMA 2670. Mathematical Statistics I.
This course presents advanced statistical inference methods. Topics include: foundations of statistical inference and comparison of classical, Bayesian, and minimax approaches, point and set estimation, hypothesis testing, linear regression, linear classification and principal component analysis, MRF, consistency and asymptotic normality of Maximum Likelihood and estimators, statistical inference from noisy or degraded data, and computational methods (E-M Algorithm, Markov Chain Monte Carlo, Bootstrap). Prerequisite: APMA 2630 or equivalent.
Fall APMA2670 S01 17014 Th 4:00-6:30(04) (B. Gidas)

APMA 2680. Mathematical Statistics II.
The course covers modern nonparametric statistical methods. Topics include: density estimation, multiple regression, adaptive smoothing, cross-validation, bootstrap, classification and regression trees, nonlinear discriminant analysis, projection pursuit, the ACE algorithm for time series prediction, support vector machines, and neural networks. The course will provide the mathematical underpinnings, but it will also touch upon some applications in computer vision/speech recognition, and biological, neural, and cognitive sciences. Prerequisite: APMA 2670.
Spr APMA2680 S01 25536 Th 4:00-6:30(17) (B. Gidas)

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

APMA 2990. Thesis Preparation.
For graduate students who have met the residency requirement and are continuing research on a full time basis.
Fall APMA2990 S01 15447 Arranged "To Be Arranged"
Spr APMA2990 S01 24257 Arranged "To Be Arranged"

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Archaeology and Ancient World

ARCH 0150. Introduction to Egyptian Archaeology and Art.
An introductory survey of the archaeology, art and architecture of ancient Egypt, ranging in time from the prehistoric cultures of the Nile Valley through the period of Roman control. While the course will examine famous features and characters of ancient Egypt (pyramids, mummies, King Tut), it will also provide a wide-ranging review of the archaeology of this remarkable land.
Fall ARCH0150 S01 17207 MWF 11:00-11:50(16) (L. Bestock)

Shipwrecks, sunken cargoes, coastal ports: all contribute to our understanding of the maritime world of the past, not least that of the Mediterranean Sea. This course will explore the Mediterranean’s ancient seafaring heritage over time, in particular by studying ancient ships and harbors as remarkable examples of social and technological innovation and enterprise. The methodological challenges faced by archaeologists working on underwater and coastal ‘sites’ will also be examined. Enrollment limited to 50.
Fall ARCH0678 S01 17208 MWF 1:00-1:50(06) (C. Rice)

ARCH 0763. The Private Life of the Privey: A Secret History of Toilets.
It’s usually unspoken, but we all know the truth: everybody poops. This class starts with some basic questions: what is poo; what are toilets, cesspits, and latrines; and how have these changed over time. But where we go, what “equipment” we use, what goes into the loo, and the morals and ideals imbued in that act vary vastly between cultures – touching on complex questions of gender, religion, disease, technology, and science. Combining advanced scientific approaches with material and cultural analyses, this course will demonstrate that even a seemingly simple biological act can reveal a culture’s most fundamental secrets.
Spr ARCH0763 S01 25815 MWF 1:00-1:50(06) (D. Dunseth)

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 17209 W 3:00-5:30(17) '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.

ARCH 2240. Key Issues in Mediterranean Prehistory.
This course’s scope is the entire Mediterranean basin, from its first peopling until ca. 500 BC. The focus is on key transformations in economic, social, and political structures and interactions; on explanations for these changes; and on current issues where fresh data or new approaches are transforming our understanding. This seminar is intended for students both with and without prior knowledge of this field, and particularly for those preparing for the Joukowsky Institute’s Mediterranean Prehistory field exam. Enrollment limited to 15 juniors, seniors, and graduate students.
Fall ARCH2240 S01 17211 Th 2:30-6:00 (J. Cherry)

ARCH 2710. The Archaeology of Nubia and Egypt.
Egypt and Nubia share the distinction of ancient civilizations along the Nile river, but Nubia remains much more poorly known than Egypt. This seminar will examine the archaeology of Nubia, including its relationship to Egypt, from the introduction of ceramics and agriculture to the medieval period. This long-term perspective will allow comparative study of issues such as state formation, imperialism and religious change. Enrollment limited to 15 graduate students.
Spr ARCH2710 S01 25814 Th 2:30-6:00 (L. Bestock)

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.

Biology and Medicine

Biology

Introduces the basic principles of human nutrition, and the application of these principles to the specific needs of humans, and the role of nutrition in chronic diseases. Provides an overview of the nutrients and their use by the human body. Also examines the role of nutrients in specific functions and disease states of the body. Not for biology concentration credit. Enrollment limited to 100.
Fall BIOL0030 S01 15557 TTh 9:00-10:20(02) (M. Flynn)

BIOL 0080. Biotechnology Management.
An examination of the pharmaceutical, biotechnology, and medical product industries; what they are, how they function, whence they originate, and various perspectives on why some succeed and others fail. Pathways from lab-bench to marketplace are described as are the pervasive influences of the FDA, patent office, and courts. Extensive reading; emphasis on oral presentation. Primarily intended for students planning a career in biomedical industry. Not for biology concentration credit. Students MUST register for the lecture section and the conference. Enrollment limited to 20.
Spr BIOL0080 S01 24454 T 4:00-6:30(16) (B. Bready)

BIOL 0100. Living Biology at Brown and Beyond.
This unique first-year seminar taught by Dean Smith has 3 goals: 1) introduce students to the people, projects, and opportunities in Biology at Brown, 2) foster and cultivate student STEM identities and interests, 3) arm students with personal, professional and academic skills to help them succeed in Biology at Brown (and beyond). Students will visit faculty research labs, learn novel lab skills, engage in active research talks from Professors, read and discuss timely books like ‘The Immortal Life of Henrietta Lacks’, and more. LivBio is especially tailored to students from historically underrepresented groups, but open to all.
Fall BIOL0100 S01 15571 W 3:00-5:30(17) (K. Smith)

For up-to-date course information please visit Courses@Brown.edu (https://cabs.brown.edu).
BIOL 0140C. Communicating Science: Animating Science.
Taught by RISD/Brown professors with the Science Ctr and Creative Mind Initiative, this course explores the pedagogy of using visual media to convey scientific concepts. The goal is to assess the quality of existing material and design new material that will embrace an educational need and make science engaging and accessible. Lectures, labs, discussions, critiques and speakers. Teams collaborate on a series of short exercises leading to the creation of videos/animations explaining scientific concepts. Projects evaluated on accuracy, clarity of explanation, educational value, viewer engagement and creativity. Not for concentration credit in Biological Sciences programs. Enrollment limited to 12; instructor permission.
Fall BIOL0140C S01 15737 W 1:00-6:00 (J. Stein)

BIOL 0150A. Techniques and Analyses using DNA-Based Biotechnology.
Students will study and practice a range of methods used in molecular biology while examining the ways in which those tools are used in research and in the development of medical treatments. This experience, combined with the reading and discussion of selected papers from the primary literature, fosters development of a skill set critically important for the modern day biology student. Expected background: high school Biology course. Enrollment limited to 10 first year students. Instructor permission required. Half-credit course. S/NC.
Fall BIOL0150A S01 15610 Th 5:00-7:50 (J. Hall)

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.
Fall BIOL0150D S01 16095 M 12:30-2:30 (T. Achilli)

BIOL 0160. Plants, Food, and People.
Examines the selection, breeding, cultivation and uses of food plants. Discusses the effects on agriculture of pathogens, climate change, and loss of biodiversity. Considers whether enough food can be produced for a world population of potentially 10 billion, while sustaining biodiversity and environmental quality. Course will include two papers and assistance from Writing Fellows. Feedback from first paper will be available when writing second paper. Enrollment limited to 50.
Spr BIOL0160 S01 24362 TTh 10:30-11:50(09) (P. Heywood)

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 15680 MWF 1:00-1:50(06) (T. Achilli)

BIOL 0180. The Biology of AIDS.
AIDS represents an example of the vulnerability of humans to new infectious agents. We will review some human infectious diseases including small pox yellow fever and influenza, and then explore AIDS/ HIV. First characterized in 1981, AIDS became the leading cause of death in U.S. males aged 25-44 within a decade. We will examine what factors make HIV such a potent pathogen. The course is intended for students beginning in biology. Expected: BIOL 0200, or equivalent placement. This course does carry Biology concentration credit.
Spr BIOL0180 S01 24690 MW 8:30-9:50(02) (P. Shank)

BIOL 0190E. Botanical Roots of Modern Medicine.
This course will explore a variety of medicinal plants found throughout the world, the diverse cultures that use them in their daily lives and the scientific underpinnings of their medicinal uses. In conjunction with readings, students will gain a hands-on approach in lab, observing, identifying and growing these plants. Enrollment limited to 19. Students MUST register for the lecture section and the lab.
Fall BIOL0190E S01 15572 MW 3:00-4:20(17) (F. Jackson)

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 on disease processes such as infection, aging, cancer, allergy, diabetes, and obesity. Enrollment limited to 19 first year students.
Fall BIOL0190F S01 15574 Thh 1:00-2:20(08) (M. Tatar)

BIOL 0190P. 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 BIOL0190P S01 15635 TTh 2:30-3:50(12) (S. Helfand)

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 break, and are annotated in the spring. One hour lecture, discussion, and 3 hours lab per week. Expected: AP Biology or equivalent, and HS chemistry. Instructor permission required. Admittance based on review of applications in the first class. Limited to 19 freshmen.
Fall BIOL0190R S01 15558 M 3:00-5:30(05) (S. Taylor)

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 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.
Spr BIOL0190S S01 24334 W 3:00-5:30(10) (S. Taylor)
Spr BIOL0190S S01 24334 F 3:00-5:30(10) (S. Taylor)

BIOL 0190U. The Lives of Plants.
This course examines the lives of plants through their development, structure, function, reproduction, and responses to environmental conditions. Enrollment limited to 19 first year students.
Fall BIOL0190U S01 15636 TTh 10:30-11:50(13) (P. Heywood)

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
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, and place a student out of this course. Students will be assigned to a lab time during the second week of class.
Fall BIOL0200 S01 24363 MWF 11:00-11:50(04) (K. Miller)

BIOL 0210. Diversity of Life.
This course will explore biological diversity – the number of taxa, and the functions, and processes that support life – from the perspectives of ecology and evolutionary biology. It will draw on examples and case studies from the geological record, functional morphology, the evolution of organ systems in vertebrates, genomics, behavior and sexual selection in birds and invertebrates. Overarching themes will emphasize that taxonomic diversity is an emergent property of complex life on Earth, and the importance of diversity of biological functions and processes in generating and maintaining taxonomic diversity. The course is open to all students.
Fall BIOL0210 S01 15575 MWF 11:00-11:50(16) (J. Kellner)

BIOL 0280. Biochemistry.
Lectures and recitation sections explore the mechanisms involved in the principles of macromolecular structure and function, the organization and regulation of pathways for intermediary metabolism, and the transfer of information from genes to proteins. It is expected that students have taken CHEM 0350 or are taking it concurrently.
Spr BIOL0280 S01 24374 TTh 1:00-2:20(08) (A. Salomon)

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 WRIT designated and will prepare students for writing an honors thesis. Expected: Students have previously taken or are concurrently enrolled in BIOL 0280. Enrollment in one lab section and one discussion section is required.
Spr BIOL0285 S01 24386 M 1:00-5:00 (K. Cohen)
Spr BIOL0285 S01 24388 Th 2:30-6:30 (K. Cohen)

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 or equivalent.
Fall BIOL0380 S01 15576 MWF 10:00-10:50(14) "To Be Arranged"

Many questions about the workings of living creatures can be answered by joining math, physics, and biology. We will identify basic physical science concepts that help biologists understand the structure and function of animals, plants, and microorganisms, and use these to study how the physical world constrains and facilitates the evolution of the extraordinary design and diversity of organisms. For first and second year students; others by permission. Recommended background: BIOL 0200, or equivalent. Enrollment limited to 40. Instructor permission required.
Spr BIOL0400 S01 24352 MWF 2:00-2:50(07) (S. Swartz)

BIOL 0410. Invertebrate Zoology.
A survey of invertebrates 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 15577 TTh 9:00-10:20(02) (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 24353 TTh 9:00-10:20(01) (J. Witman)

BIOL 0430. The Evolution of Plant Diversity.
Examines the evolutionary history of plants from a phylogenetic perspective. Introduces the science of phylogenetics - how to infer phylogenies and how to use them to understand organisal 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, field trips, and assignments stress basic plant anatomy and morphology, identification, and learning the local flora. Expected: BIOL 0200 (or equivalent placement).
Spr BIOL0430 S01 24355 TTh 9:00-10:20(01) (R. Kartzinel)

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 1440.) Expected: BIOL 0200 (or equivalent placement). Students will be assigned to Lab sections the first week of class.
Fall BIOL0470 S01 15637 TTh 10:30-11:50(13) (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. Weekly discussion sections involve debates on original research papers. Occasional problem sets involve computer exercises with population genetics and phylogeny reconstruction. Expected: BIOL 0200 (or equivalent placement).
Fall BIOL0480 S01 15579 MWF 9:00-9:50(01) (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. BIOL 0495 is for related science credit only in Biological Sciences concentration programs. Enrollment limited: 40 undergraduates-20 juniors and 20 sophomores. Registration for seniors requires permission from the instructor.
Spr BIOL0495 S01 24345 TTh 10:30-11:50(09) (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).
Spr BIOL0500 S01 24391 MW 3:00-4:20(10) (P. Heywood)
### 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 biogeochemical 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. For spring 2021 only, this course will be limited to sophomores, juniors, and seniors. In spring 2022 and beyond, enrollment will once again be open to first-year students.

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### 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.

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### BIOL 0600. Genetic Screening in Model Organisms

Using gene silencing (RNAi) in the nemotode C. elegans, students will identify genetic modifiers of proteins with roles in aging by reverse genetics. Analyzing the effect of knocking down genes on the level of aging-related proteins tagged with fluorophores (GFP, RFP, etc.). Students will use function-specific RNAi libraries (transcription factors, kinases, etc) established in our lab. Students will evaluate the effect of genetic modifiers on proteostasis and lifespan, also familiarize C. elegans work and appreciating the use of model organisms, the students will master microscopy, genetic crosses, gene silencing, and molecular and biochemical readout assays such as qPCR and immunoblotting.

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### 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.

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### BIOL 0860. Diet and Chronic Disease

This course addresses the relationship of food to the development and treatment of chronic diseases. Chronic diseases discussed are obesity, dyslipidemia/heart disease, diabetes mellitus, cancers and osteoporosis. Dietary recommendations for these diseases are critically assessed. Geared toward students interested in nutrition, medicine, and public health. Prerequisites: BIOL 0030, plus permission of the instructor. Enrollment limited to 20.

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### 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.

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### 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 phylogenetic trees, and botanical illustration. Instructor permission required.

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### BIOL 0940G. Antibiotic Drug Discovery: Identifying Novel Soil Microbes to Combat Antibiotic Resistance

This is a Course-based Undergraduate Research Experience (CURE) class that will provide students with the chance to propose, design and conduct their own research projects. Antibiotic resistance is a major global health threat. Pharmaceutical companies are less likely to fund research and development of new antibiotics due to their relative low profitability. As bacteria become more resistant to antibiotics, it is critical that we have a robust pipeline ready to combat these pathogens. The main focus of the course will be for students to discover new antibiotics in soil bacteria that can be used to treat infectious disease.

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### BIOL 0945. Toolbox for Scientific Research

Why is scientific research important? What is the scientific method? What are hypotheses and theories? How do scientists identify research questions, design experiments, fund research, and communicate results? This sophomore seminar is designed for students who want to understand and engage in scientific research in biology. Through active learning seminars, group discussions, and meetings with scientists, students will gain a deeper understanding and an appreciation for the principles, practice, and culture of scientific research. The course will also help develop practical and transferable skills to succeed in research and give students an opportunity to connect with research groups at Brown.

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### BIOL 0960. Independent Study in Science Writing

BIOL 0960 (fall/spring) is a half credit Independent Study in Science Writing course incorporating a scientific research 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.

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### 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.

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For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
BIOL 1070. Biotechnology and Global Health. 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 15686 MTh 2:00-3:20 (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 16494 T 1:00-3:50 (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. Registration overrides will not be given out until after the first one or two classes. Enrollment limited to 30, and admission is based on seniority -- graduate students, seniors, then juniors. (Not for first and second-year undergraduates.)
Spr BIOL1100 S01 24464 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. Enrollment limited to 20 juniors and seniors. Instructor permission required.
Fall BIOL1110 S01 15687 W 3:00-5:30(17) (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 24465 TTh 6:40-8:00PM(18) (J. Scott)

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 15688 Th 3:00-5:50 (D. Hoffman-Kim)

BIOL 1150. Stem Cell Engineering. Stem cell engineering focuses on using adult, embryonic, and induced pluripotent stem cells to repair damaged or diseased tissues. This course will examine the role of stem cells in development, tissue homeostasis, and wound healing, and as well as how they can be used for tissue engineering and cell-based regenerative therapies. We will also discuss the ethical, legal, and regulatory issues that accompany current and emerging stem cell engineering endeavors. The course will use an inverted lecture and classroom discussion format to effectively deliver relevant information. Emphasis is placed on oral and written communication skills applied to assignments, tests, and individual projects. As an additional part of this course, students will receive hands-on training in how to culture cells and assess samples for stemness characteristics in a group laboratory setting.
Spr BIOL1150 S01 24970 Th 3:00-5:20 (E. Darling)

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 15689 MWF 1:00-1:50(06) (C. Hai)

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 24710 Arranged (W. Fairbrother)

BIOL 1250. Host-microbiome Interactions in Health and Disease. Will focus on current understanding of how various microbiomes communicate and interact with the host and the factors that influence these interactions. We will discuss how the new technologies such as metagenomics and metabolomics have enhanced our understanding of host-microbiome interactions in health and disease. Students will have the opportunity to participate in discussions on how to apply recent discoveries to disease processes, health restoration and maintenance. The course will help students develop skills in critical thinking and in reading and evaluating original scientific literature. Expected: students with a background in basic microbiology (BIOL 0530 or its equivalent). 20 enrollment.
Spr BIOL1250 S01 24340 Th 2:30-5:30 (P. Belenky)

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 15718 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 15656 TTh 2:30-3:50(12) (G. Lisi)

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Provides a conceptual understanding of molecular events underlying development of human cancer. Focuses 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 15670 MW 3:00-4:20(17) (A. Zhitkovich)

BIOL 1300. Biomolecular Interactions: Health, Disease and Drug Design.
Interactions between the molecules of life-protiens, RNA, DNA, membrane components-underlie all functions necessary for life. This course focuses on how nature controls these interactions, how these interactions can go awry in disease, and how we can learn the rules of these interactions to design drugs to treat disease. Students will review the physical basis of molecular interactions, learn classic and state-of-the-art high-resolution and high-throughput tools used to measure interaction, and survey the experimental and computational strategies to harness these interactions using a case study in rational drug design. Prerequisite: Introductory Biochemistry (BIOL 0280). Enrollment limited to 20; instructor permission.

Fall BIOL1300 S01 15720 M 3:00-5:30(05) (N. Fawzi)

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 24421 M 3:00-5:30(13) (G. Wessel)

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 the rapidly emerging field of study. Readings will include the primary literature. A term-paper will be required. Prerequisite: BIOL 0420 or instructor permission. Enrollment limited to 30.

Fall BIOL1470 S01 15584 TTh 9:00-10:20(02) (D. Sax)

BIOL 1515. Conservation in the Genomics Age.
The course will introduce students to the rapidly developing field of molecular ecology, emphasizing its importance for conservation biology. Students will explore key principles in evolutionary ecology based on readings, lectures, and discussions. Participants will also gain practical experience with ecological, genomic, and computational methods in the lab. This course is intended for advanced undergraduate and graduate students. Suggested prerequisites include Principles of Ecology (0420); Evolutionary Biology (0480) or Genetics (0470); the Lab Techniques Workshop for Biology Students provided by MDL; or similar with permission. Students will obtain permission from the professor to enroll.

Fall BIOL1515 S01 15589 MWF 9:00-9:50(01) (T. Kartzenel)

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 15561 TTh 9:00-10:20(02) (L. Brossay)

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. 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. Graduate students should register for BIOL 2540.

Spr BIOL1540 S01 24422 TTh 2:30-3:50(11) (E. Larschan)

BIOL 1550. Biology of Emerging Microbial Diseases.
Emerging diseases influence the health of human populations in less developed countries and are expected to have similar effects worldwide. Rising incidence of "new" diseases underscores the need for knowledge of infection mechanisms and their outcomes. Focuses on biochemical, genetic, cellular and immunological events of emerging pathogens and host responses. Expected: BIOL 0470 or BIOL 0530.

Spr BIOL1550 S01 24341 MWF 11:00-11:50(04) (C. de Graafenried)

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 molecular 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 24347 TTh 10:30-11:50(09) (N. Sarkar)

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 associated with human disease. Lectures based on current literature. Prerequisite: BIOL 0280, 0470, or 0530, or instructor permission.

Fall BIOL1560 S01 15562 MWF 9:00-9:50(01) (A. Jamieson)

BIOL 1565. 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 BIOL1565 S01 15566 M 3:00-5:30(05) (N. Sarkar)
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 BIOL1575 S01 15567 TTh 1:00-2:20(08) (H. Fraser)

BIOL 1595. Artificial Intelligence in Biomedicine.
This course will teach the fundamental theory and methods of artificial intelligence (AI) alongside their application to the biomedical domain. It will give a representative overview of traditional methods as well as modern developments in the areas of (deep) machine learning, natural language processing and information retrieval. The course is designed to be accessible to non-computer science audiences and will not require extensive prior programming experience. The course will be accompanied by practical assignments applying the discussed techniques in a biomedical context. Understanding of formal theoretical knowledge will be assessed in a final exam. The course is designed for students concentrating in domains such as Computational Biology and Applied Mathematics-Biology; or Neuroscience concentrators who have completed a course in introductory statistics (e.g., BIOL 0495). Spr BIOL1595 S01 24348 TTh 1:00-2:20(08) (C. Eickhoff)

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 0550, and at least one additional biology course. Spr BIOL1600 S01 24342 MW 3:00-4:20(10) (S. Vaishnava)

BIOL 1810. 21st Century Applications in Cell and Molecular Biology.
Twenty-first century applications in cell and molecular biology focuses on the structure and function of macromolecules and cells and how they are altered in disease and therapy. This course will explore physical principles underlying cell function, along with biophysical approaches for solving problems of cell and molecular biology. Cutting-edge molecular and cellular-based therapeutics will be discussed throughout this course; this includes viral gene delivery constructs, novel platforms for tissue engineering, CRISPR genome editing, and immune checkpoint therapy. This course is particularly suitable for undergraduate students interested in basic medical research, graduate school, or research-based careers in biotechnology or pharmaceutical industry. Spr BIOL1810 S01 24987 TTh 9:00-10:20(01) (M. Dawson)

BIOL 1820. Environmental Health and Disease.
Humans live, work, and play in complex chemical environments. BIOL1820 examines how environmental exposures impact human health and contribute to disease. The course covers basic concepts in toxicology, epidemiology, and safety assessment, and is divided into 4 sections: radiation, lead, perfluorinated chemicals, and endocrine disruptors. For each section, students will examine the molecular mechanisms that mediate toxicity, learn how toxicant exposure impacts physiology, evaluate exposure risk, and discuss issues of environmental justice. Prerequisites: introductory level biology and chemistry. BIOL 1820 is designed for junior and senior undergraduates, and is open to others with permission. Spr BIOL1820 S01 24448 TTh 10:30-11:50(09) (J. Plavicki)

BIOL 1870. Techniques and Clinical Applications in Pathobiology.
A methodology course featuring laboratory and lecture instruction in established and leading-edge technologies. Examples: flow cytometry (multi-parameter analysis, cell sorting); molecular biology (PCR, real time PCR, in situ hybridization, microarrays, DNA sequencing, bioinformatics); digital imaging (image acquisition, processing and analysis); confocal microscopy; histology and immunohistochemistry (confocal, immunohistochemistry). Spr BIOL1870 S01 24453 TTh 1:00-3:50 (C. Jackson)

BIOL 1880. Comparative Biology of the Vertebrates.
The biology, structure, and evolutionary history of the vertebrates considered phylogenetically, emphasizing evolution of the major body systems. Stresses an evolutionary approach to the correlation of structure and function with environment and mode of life. Labs include dissection of several different vertebrates and comparative osteological material. Emphasis of course is on critical thinking rather than memorization of material. Recommended: BIOL 0320 or 0800. First year students must obtain instructor permission to register. Enrollment limited to 32. Students MUST register for the lecture section and the lab. Spr BIOL1880 S01 24358 MW 11:00-11:50(04) "To Be Arranged"

 Directed research/ independent study in biological sciences: basic science, social studies of biomedical science, and clinically-oriented projects, mentored by individual faculty members in the Division of Biology and Medicine. Sites include campus and hospital based facilities. Projects can serve as the basis for Honors theses, or to fulfill research requirements in a Bio-Med concentration program. Students planning to use 1950/1960 to fulfill a concentration requirement must receive approval from the concentration advisor. No more than two (2) semesters of BIOL 1950/1960 may be used toward a concentration program in the biological sciences. Faculty from outside the Division may supervise projects for bio-med program concentrators, but should do so using their Department’s own Independent Study course number.

 Directed research/ independent study in biological sciences: basic science, social studies of biomedical science, and clinically-oriented projects, mentored by individual faculty members in the Division of Biology and Medicine. Sites include campus and hospital based facilities. Projects can serve as the basis for Honors theses, or to fulfill research requirements in a Bio-Med concentration program. Students planning to use 1950/1960 to fulfill a concentration requirement must receive approval from the concentration advisor. No more than two (2) semesters of BIOL 1950/1960 may be used toward a concentration program in the biological sciences. Faculty from outside the Division may supervise projects for bio-med program concentrators, but should do so using their Department’s own Independent Study course number.

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, general and/or cell biology. Instructor permission; 20 students. Fall BIOL1970A S01 15653 Arranged (R. Freiman)
BIO 2000A. Current Topics in MCDB - RNA Regulation: Beyond the Central Dogma.
The central dogma of molecular biology has long held that the primary role of RNA is to serve as an intermediary to convert the information stored in DNA into functioning proteins. However, it is now clear that RNA does not merely play a passive role in the information transfer process from DNA to protein. This course will focus on the many roles played by RNA molecules in both normal cellular processes and disease states. Papers from the primary literature will be chosen to explore this topic, primarily through student-led discussions. Open to graduate students and advanced undergraduates with appropriate coursework.
Fall BIO2000A S01 16833 W 2:00-4:30 (K. Mowry)

BIO 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 BIO2000C S01 24712 Arranged (A. DeLong)

BIO 2010. Quantitative Approaches to Biology.
Graduate level introduction to quantitative and computational methods in modern biology. Topics include Programming, Modeling, Algorithms, Bioinformatics, Applied Statistics, Structural Biology, Molecular Dynamics, Enzyme Kinetics, and Population and Quantitative Human Genetics. Preference is given to graduate students in Molecular Biology, Cell Biology and Biochemistry and Molecular Pharmacology, Physiology, and Biotechnology. Limited to 20 students. Instructor permission required.
Spr BIO2010 S01 24426 T 10:00-1:00 (N. Neretti)

The course will introduce students to the rapidly developing field of molecular ecology, emphasizing its importance for conservation biology. Students will explore key principles in evolutionary ecology based on readings, lectures, and discussions. Participants will also gain practical experience with ecological, genomic, and computational methods in the lab. This course is intended for advanced undergraduate and graduate students. Suggested prerequisites include Principles of Ecology (0420); Evolutionary Biology (0480) or Genetics (0470); the Lab Techniques Workshop for Biology Students provided by MDL; or similar with permission. Students will obtain permission from the professor to enroll.
Fall BIO2015 S01 15593 MWF 9:00-9:50(01) (T. Kartzinel)

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 BIO2018 S01 24466 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 (ECON0110)/equivalent or instructor's permission is required.
Fall BIO2020 S01 15690 Th 4:00-6:30(04) (J. Scott)

BIO 2030. Foundations for Advanced Study in the Life Sciences.
A double-credit graduate course on multidisciplinary experimental approaches to biological questions. Focusing on primary literature, lectures and discussions cover the mechanisms and regulation of basic cellular processes involving nucleic acids (synthesis, structure, maintenance and transmission) and proteins (synthesis, maturation, function) and their integration into more complex circuits (signaling, organelle biogenesis and inheritance, cell cycle control). Required for PhD students in the MCB Graduate Program; all others must obtain instructor permission. Enrollment is limited to graduate students.
Fall BIO2030 S01 15655 F 10:00-11:35 (A. DeLong)
Fall BIO2030 S01 15655 MTTh 9:00-10:20 (A. DeLong)

BIO 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 BIO2040 S01 24414 M 2:00-5:00 (G. Williams)

(Graduate students should register for BIOL 1050.)
Fall BIO2050 S01 15651 TTh 1:00-2:20(08) (K. Miller)

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.
Fall BIO2075 S01 15568 Th 1:00-2:20(08) (H. Fraser)

BIO 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 BIO2089 S01 15691 W 4:00-6:30 (D. Holmander)

BIO 2110. Drug and Gene Delivery.
Topics in drug delivery systems including history of the field, advantages of controlled release technology, stabilization and release of proteins, fabrication methods, regulatory considerations, economic aspects, patents and intellectual property rights, and more. Prepare students for research in industry and academia, and offers information for consultants in the field. Expected: BIOI 1090, 1120; CHEM 0350, 0360.
Fall BIO2110 S01 15717 M 3:00-5:30(05) (E. Mathiowitz)

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

Focused on the effective dissemination of scientific information in the molecular biosciences. 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 Graduate Program. Other qualified students may enroll with instructor’s permission.

BIOL 2156. Special Topics in Biotechnology Writing.
This course is open to Biotechnology Masters students not involved in lab-based research. Students choose from a list of topics and faculty mentors in the field of biotechnology. Teams conduct in-depth research and writing, with the goal of producing a final report and presentation equivalent to a professional consultant’s report. Students meet weekly with mentor to monitor progress. Prerequisite: BIOL 0280 and 1120; CHEM 0350/0360 or equivalent. Enrollment limited to 20 students. Instructor permission required. Course is offered in both, Semester 1 and 2, and may be repeated once for credit.

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. Instructor permission required. Course is offered in both, Semester 1 and 2, and may be repeated once for credit.

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. Fall BIOL2170 S01 15692 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.

BIOL 2190. MPP Professional Development Seminar.
Professional development seminar required of all first year graduate students in the Molecular Pharmacology and Physiology Graduate Program, and open to graduate students in other programs. Topics include grants and funding, effective oral presentation skills, alternative careers in science, and others. All students will be required to present a research seminar during the scheduled class time.

BIOL 222B. 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.

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, students will give research presentations and receive feedback from the audience to help improve their public speaking skills.

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

Blood serves many critical functions including respiratory gas transport, hemostasis and host defense. Plasma and cellular components of blood, their functional mechanisms, pathophysiologic consequences when deficient and current treatments will be reviewed. Finally, development of blood component substitutive therapeutics (blood substitutes) based on protein and cellular engineering technologies (biotherapeutics) will be discussed. Open to Graduates students and Juniors and Seniors who meet the pre-requisites BIOL 0800 and BIOL 0280 or with instructor's permission.

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.

BIOL 2270. Advanced Biochemistry.
(Graduate students only. Required of all students in the Molecular Pharmacology and Physiology Graduate Program. Open to graduate students in other programs.)

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Interactions between the molecules of life-proteins, RNA, DNA, membrane components-underlie all functions necessary for life. This course focuses on how nature controls these interactions, how these interactions can go awry in disease, and how we can learn the rules of these interactions to design drugs to treat disease. Students will review the physical basis of molecular interactions, learn classic and state-of-the-art high-resolution and high-throughput tools used to measure interaction, and survey the experimental and computational strategies to harness these interactions using a case study in rational drug design. Prerequisite: Introductory Biochemistry. Enrollment limited to 20; instructor permission.
Fall BIOL2300 S01 15721 M 3:00-5:30(05) (N. Fawzi)

BIOL 2340. Neurogenetics and Disease.
Genetic mutations provide a powerful approach to dissect complex biologic problems. We will focus on fascinating discoveries from "forward genetic" studies – moving from nervous system phenotype to genetic survival, as opposed to simply longevity. It is now generally acknowledged that increasing health span – the fraction of our life spans free of frailty and debilitating chronic disease – has become a realistic goal. This course will examine the new concept of "reverse genetics" – engineered mutations in model systems – to dissect nervous system function and disease mechanisms. Disorders to be covered include autism, intellectual disability, schizophrenia, epilepsy. Enrollment limited to 20. Instructor permission required.
Fall BIOL2340 S01 16041 W 3:00-5:50 (A. Webb)

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 multiple age-related diseases have already been discovered. These mechanisms are conserved throughout evolution and many key insights have been garnered from simple model organisms. Manipulation of these networks has been achieved by diet, genetic engineering, and most recently, with drugs. The goal of modern medicine is to increase healthy survival, as opposed to simply longevity. It is now generally acknowledged that increasing health span – the fraction of our life spans free of frailty and debilitating chronic disease – has become a realistic goal. This course will examine the new concept of "geroscience" – the molecular, cellular, and genetic foundations of the biology of aging, and how this knowledge can be applied to therapies for age-associated diseases. Course material 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.
Spring BIOL2350 S01 24471 Th 9:30-12:00 (M. Analoui)

BIOL 2540. Molecular Genetics.
Even in this era when whole 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.
Spring BIOL2540 S01 24423 Th 2:30-3:50(11) (E. Larschan)

BIOL 2560. Advanced Virology.
The emphasis of this course will be on understanding the molecular mechanisms of viral pathogenesis. It will begin with a general introduction to the field of virology, a basic review of the immune response to viruses, and then focus primarily on the molecular biology of specific viruses that are associated with clinical human disease. Lectures will be based on the current literature and provide historical context. Students will become familiar with primary literature and produce their own original research proposal by the end of the semester.
Fall BIOL2560 S01 15936 MWF 9:00-5:50(01) (A. Jamieson)

BIOL 2595. Artificial Intelligence in Biomedicine.
This course will teach the fundamental theory and methods of artificial intelligence (AI) alongside their application to the biomedical domain. It will give a representative overview of traditional methods as well as modern developments in the areas of (deep) machine learning, natural language processing and information retrieval. The course is designed to be accessible to non-computer science audiences and will not require extensive prior programming experience. The course will be accompanied by practical assignments applying the discussed techniques in a biomedical context. Understanding of formal theoretical knowledge will be assessed in a final exam.
Spring BIOL2595 S01 23439 Th 1:00-2:20(08) (C. Eickhoff)

BIOL 2640A. Viral Immunology.
Viral Immunology is an advanced topics course in Microbiology and Immunology which will be focused on viral immunology. Weekly meetings will cover different issues concerning defense against viral infections and pathology related to viral infection, with focus on viral-host interactions. Topics will be selected to present either important basic concepts in the context of immune responses and/or major challenges in controlling viral infections. Recent advances in understanding virus-host interactions, host responses to viruses, cytokine regulation of immune responses or cytokine-mediated pathology during viral infections will be emphasized. The 2020 organizational meeting is set for Wednesday, Jan. 22 at 3:00PM (BMC 6th Floor Conference Room - Room 603). There is also a requirement for a previous immunology course.
Spring BIOL2640A S01 23434 WF 3:00-4:40 (C. Biron)

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
BIOL 2860. Molecular Mechanisms of Disease.
BIOL 2860 is designed for graduate students and focuses on the underlying causes of human disease. The course will explore the mechanistic basis of phenylketonuria, thalidomide toxicity, and cystic fibrosis. Students should have a solid background in the life sciences with an understanding of the fundamental principles of molecular biology, genetics, biochemistry, and cell biology. Emphasis will be placed on the development of presentation skills and research design. Readings will be assigned from Robbins Basic Pathology 10th Edition (2016); Junqueira’s Basic Histology Text & Atlas 14th Edition (2016), primary literature, and reviews. Both textbooks are available online through the library website.

BIOL 2865. Toxicology.
Toxicology is the science that describes the adverse biological effects of exogenous chemical and physical stressors, including environmental, industrial, and agricultural chemicals and pharmaceuticals. This course will introduce the principal biological processes that determine an organism’s response to a toxicant, including absorption, distribution through a biological system, metabolism, elimination, and effects at the site(s) of action. We will discuss modern challenges in toxicology, such as assessing toxicity of mixtures and testing some of the thousands of untested chemicals in commerce. The material will be presented in lecture and student-led discussions, with readings from the toxicology literature.

BIOL 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.

BIOL 2980. Graduate Independent Study.
Independent study projects at the graduate level. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

BIOL 2985. Graduate Seminar.
Section numbers vary by instructor. Please see the registration staff for the correct section number to use when registering for this course.

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

BIOL 2995. Thesis.
Section numbers vary by instructor. Please see the registration staff for the correct section number to use when registering for this course.

BIOL XLIST. Courses of Interest to Biology Concentrators.

BioMed-Neuroscience

NEUR 0010. The Brain: An Introduction to Neurosciences.
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.

Examines the sensory and perceptual system for hearing: the external, middle, and inner ears; the active processes of the cochlea; sound transduction and neural coding; neural information processing by the auditory system; and the nature of auditory perception and its biological substrate. Prerequisite: an introductory course in Neuroscience, Cognitive Science, Physics, Engineering or Psychology.

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.

NEUR 1030. Neural Systems.
This lecture 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.

NEUR 1040. Introduction to Neurogenetics.
Recent advances in molecular biology and molecular genetics have allowed researchers to test specific hypotheses concerning the genetic control of behavior and neurological disease. This course will familiarize you with the relatively new and exciting field of neurogenetics. We will cover basic topics, new ideas, and unsolved problems in neurogenetics primarily through the two assigned texts. However, neurogenetics is essentially a “frontier” area in neuroscience, and the best way to approach this topic is by scientific literature, which will be covered in some lectures.

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.

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 of 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.

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.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
NEUR 1600. 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 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. Enrollment limited to 18. Please request override through C@B. Overrides will not be given until after the first course meeting.
Spr NEUR1600 S01 24718 W 1:00-5:50 (J. Sanes)

NEUR 1630. Open-Source Big Data Neuroscience 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 16057 Arranged (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, 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 NEUR1650 S01 16053 TTh 2:30-3:50(12) (D. Berson)

NEUR 1660. Neural Computation in Learning and Decision-Making.
Your brain is constantly making decisions, receiving feedback about those decisions, and learning from that feedback. In this course we will examine the neuroscience underlying these processes from a computational perspective. The course will involve reading scientific papers from cognitive neuroscience, building and testing the computational models that have been developed to synthesize this literature, and, as a final project, extending an existing model of learning or decision making and characterizing its behavior. A primary goal for the course is to develop the tools and motivation to translate verbal theories of behavior into formal and testable computational models.
Spr NEUR1660 S01 24719 W 5:00-8:00PM (M. Nassar)
Spr NEUR1660 S01 24719 TTh 10:30-12:00 (M. Nassar)

NEUR 1680. Computational Neuroscience.
A lecture and computing lab course providing an introduction to quantitative analysis of neural activity and encoding, as well as modeling of neurons and neural systems. Emphasizes Matlab-based computer simulation. Prerequisites: NEUR 0010, 1020 or 1030; APMA 1650 or equivalent; APMA 0330 or 0350 or equivalent. Experience with Matlab desirable. 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 NEUR1680 S01 16061 MW 3:00-4:20(17) (L. Bienenstock)

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 monoallelic diseases (e.g. Fragile X Syndrome, Duchenne Muscular Dystrophy and Tuberosus 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 24720 MW 8:30-9:50(02) (J. Fallon)

NEUR 1930G. Disease, Mechanism, Therapy: Harnessing Basic Biology for Therapeutic Development.
The recent surge in understanding the cellular and molecular basis of neurological disease has opened the way for highly targeted drug discovery and development. In this course we will use several case studies to illuminate how mechanistic insights are being translated into novel therapeutic approaches. 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 NEUR1930G S01 16062 T 3:00-5:00 (J. Fallon)

NEUR 1930L. Neural Correlates of Consciousness.
This course will consider the neuroscience of consciousness from a variety of perspectives, using examples from behavior, neurophysiology, neuroimaging and neurology. The course content will focus on primary literature, using review articles for background. Students will lead discussions. Sign-up required by Google Docs (link below). Please keep in mind that overrides may not be given until after the first meeting. Overrides are given based on seniority, concentration requirements, etc. Strongly Recommended: NEUR 1030. Enrollment limited to 15.
Spr NEUR1930L S01 24721 Arranged (J. Sanes)

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.
Spr NEUR1930J S01 24723 Arranged (J. Donohue)

NEUR 1930N. Region of Interest: An In-Depth Analysis of One Brain Area.
An in-depth exploration of one region of the brain. Topics will include: cell types and properties; synaptic properties; plasticity; connections to other brain areas; sub-divisions within the area; the region's role in sensation and perception; the region's role in action and behavior; the region's role in learning and memory; and diseases and disorders. Students will gain a deeper understanding of concepts and principles that apply throughout the brain. Students will gain experience with primary literature and learn about techniques for studying the area. Topic Spring 20: TBD. Request overrides through C@B. Overrides will not be given until after first meeting.
Fall NEUR1930N S01 16063 W 12:30-3:00 (M. Linden)

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 NEUR1940B S01 24724 Arranged (J. Simmons)

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 16064 MW 9:00-12:00 (K. O'Connor-Giles)

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 24725 (E. Walsh)

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 16065 W 1:00-4:00 (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 24727 (G. Bamea)

NEUR 2110. Statistical Neuroscience.  A lecture and computing lab course for senior undergraduate and graduate students with background in either systems neuroscience or applied math/biomedical engineering on the statistical analysis and modeling of neural data, with hands-on Matlab(Octave)/Python-based applications to real and simulated data. Topics will include signal processing, hypothesis testing and statistical inference, modeling of multivariate time series and stochastic processes in neuroscience and neuroengineering, neural point processes, time and spectral domain analyses, and state-space models. Example datasets include neuronal spike trains, local field potentials, ECoG/EEG, and fMRI. Sign-up sheet in Sidney Frank Hall, Room 315 beginning on the first day of registration. Instructor permission required.
Spr NEUR2110 S01 16068 TW 5:00-7:00 (D. Sheinberg)

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 15511 Arranged (D. Sheinberg)
Spr NEUR2970 S01 24305 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/NCR required.

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 15512 Arranged (D. Lipscombe)
Spr NEUR2990 S01 24306 Arranged (D. Lipscombe)

Medical Education

MED 2210. Radiological Physics and Dosimetry.  This course will cover the fundamental physics behind radiation production and interaction, including a review of pertinent mathematics, classical mechanics, and nuclear physics. Topics to be covered within basic radiation physics: radioactive decay, radiation producing devices, characteristics of the different types of radiation (photons, charged and uncharged particles), mechanisms of their interactions with materials, and essentials of the determination of absorbed doses, by measurement and calculation, from ionizing radiation sources used in medical physics (clinical) situations.
Fall MED2210 S01 16168 Arranged (G. Cardarelli)

MED 2220. Radiation Protection & Instrumentation.  This course examines principles of radiation protection with application to the hospital setting in radiation oncology, diagnostic imaging, and nuclear medicine. Designs of facilities and quality management programs are examined. Radiation safety practices are reviewed for involved hospital staff, patients, and the general public. This includes various radiation sources: electronically-generated photons and electrons, sources of sealed radioactivity, and unsealed sources of radioactivity. Additionally, the practice of radiation measurements as performed by the medical physicist is taught. This aspect includes associated dosimetry protocols, instrumentation, and clinical contexts. A practicum permits hands-on opportunities to assimilate the theoretical basis and rationale for radiation measurements.
Fall MED2220 S01 16169 Arranged (M. Rivard)

MED 2250. Radiation Therapy Physics.  This course will provide a comprehensive survey of basic radiotherapy physics, fundamental radiation therapy, and contemporary radiation therapy. The basic principles of radiotherapy treatment modalities, radiation detection, dose calculation methods, and image-based treatment planning will be reviewed. Topics to be covered include external beam radiation therapy (photons, protons, and electrons), brachytherapy, and special procedures. Image guidance methods will be discussed as well as patient and machine quality assurance.
Spr MED2250 S01 24787 Arranged (E. Klein)

MED 2260. Physics of Medical Imaging.  The course provides the necessary physics background that underpins day-to-day medical imaging physics activities. It is aimed primarily at new entrants to the profession, but should be of benefit to postgraduate students, postdoctoral research workers, physicist-managers, representatives of allied commercial organizations and anyone wishing to deepen or re-establish their understanding of the physics of medical imaging. Overviews of specialized or research related topics, such as positron emission tomography and magnetic resonance spectroscopy are given.
Spr MED2260 S01 24788 Arranged (E. Walsh)

MED 2980. Independent Study in Population Medicine.  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.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Business, Entrepreneurship and Organizations

BEO 1930A. BEO Capstone I: Organizational Studies Track.
The first in a two-semester Capstone for BEO Organizational Studies track seniors, open to all BEO seniors. Capstone builds upon concepts covered in BEO courses, specifically concepts from SOC 1311 and 1315. Students will synthesize knowledge at several levels: across disciplines, across theoretical understanding and practical application, and across private and public sector experiences of entrepreneurship and innovation. Students will be organized into client-mentored teams for social entrepreneurship and social innovation projects. BEO 1930A (fall) required; 1940A (spring) strongly advised for all Organizational Studies track seniors. Application required to match students to projects. Project team meetings required outside scheduled lectures.

Fall BEO1930A S01 16936 TTh 1:00-2:20(08) (L. DiCarlo)

BEO 1930B. BEO Capstone I: Entrepreneurship and Technology Management Track.
The first in a two-semester Capstone required of BEO Tech track seniors. Student teams from Engineering, BEO and other technical and non-technical disciplines form simulated high tech start-up companies working on mentor-defined opportunities. Concepts reviewed in class include: product commercialization, intellectual property, marketing, product requirements documentation, team building, safety, environmental and legal requirements. BEO Tech track concentrators should complete ENGN 1010 prior to course. Enrollment is limited. Students must complete formal application (BEO Tech track seniors automatically approved). Project team meetings required outside scheduled lectures. Non-BEO concentrators require instructor permission.

Fall BEO1930B S01 16937 TTh 1:00-2:20(08) ’To Be Arranged’

BEO 1930C. BEO Capstone I: Business Economics Track.
Designed for BEO Business Economics track seniors, this capstone is open to all BEO students, and builds upon BEO concepts in economics, finance, strategy and markets. Students form teams to solve existing business problems, simulating groups of consultants. Projects range from recommending appropriate finance for new investments to project evaluation and pricing of new services. Student teams have clientmentors. Students apply analytical frameworks of BEO disciplines to hone writing, presentational, leadership and organizational skills. Application required to match students to projects. Project team meetings required outside scheduled lectures.

Fall BEO1930C S01 16938 TTh 1:00-2:20(08) (B. McNally)

BEO 1940A. BEO Capstone II: Organizational Studies Track.
Continuation of Semester 1, BEO Capstone I: Organizational Studies Track (BEO 1930A). This course involves the completion of team projects begun in fall semester.

Spr BEO1940A S01 25422 TTh 1:00-2:20(08) ’To Be Arranged’

BEO 1940B. BEO Capstone II: Entrepreneurship and Technology Management Track.
Continuation of Semester 1, BEO Capstone I: Entrepreneurship and Technology Management Track (BEO 1930B). This course involves the completion of team projects begun in fall semester. Non-BEO concentrators require instructor permission.

Spr BEO1940B S01 25423 TTh 1:00-2:20(08) ’To Be Arranged’

Course allows concentrators to complete BEO 1930 as an independent study due to scheduling conflicts.

Chemistry

CHEM 0080B. Molecular Structures in Chemistry and Biology.
This course will consist of a survey of historical developments and concepts of three dimensional structures of molecules. The course will conclude with a survey of the current state of the art of structure determination and 3D structure motifs for small molecules, nanomaterials and biological macromolecules. This freshman only seminar will be strictly limited to a maximum of 19 students.

Fall CHEM0080BS01 16828 TTh 9:00-10:20(02) ’To Be Arranged’

CHEM 0100. Introductory Chemistry.
Explores stoichiometry, atomic and molecular structure, chemical bonding, solutions, gases, chemical reactions, equilibria, thermochemistry. Three hours of lecture, one conference per week, no laboratory section. S/NC.

Fall CHEM0100 S01 16068 TTh 9:00-10:20(02) ’To Be Arranged’

CHEM 0330. Equilibrium, Rate, and Structure.
Explores the electronic structure of atoms and molecules, thermodynamics, solution equilibrium, electrochemistry, chemical kinetics, and reaction mechanisms. Course includes lecture and laboratory sections. Laboratory cannot be taken without the lecture. Students who previously passed 0330 lab may be excused from repeating the lab portion of the course. Required background: CHEM 0100 or AP Chemistry 4 or CHEM Placement Test 8 or IBC Chemistry.

Fall CHEM0330 S01 16069 MWF 10:00-10:50(14) ’To Be Arranged’

CHEM 0332. Equilibrium, Rate and Structure - Tutorial.
The CHEM 0332 tutorial program offers students the opportunity to master the concepts taught in the fall semester CHEM 0330: Equilibrium, Rate and Structure course by focusing on active problem solving. Students who struggle in the fall CHEM 0330 course may be invited to join the tutorial program. Students accepted into the tutorial program begin by reviewing compound and reaction stoichiometry at the beginning of the spring semester. Tutorial students enroll in CHEM 0332 during the spring semester to complete their studies of equilibrium, acid-base equilibria, thermodynamics, atomic and molecular structure and kinetics. Students in the CHEM 0332 tutorial program complete weekly problem sets during the spring semester and participate in two mandatory, regularly scheduled problem sessions during each week of the spring semester. To qualify for consideration, the student must be struggling in the midterm exams and on track to pass the laboratory. Accepted students receive a grade of incomplete for the Fall CHEM 0330 course. Upon successful completion of the CHEM 0332 tutorial program in the spring semester, the incomplete in Fall CHEM 0330 is replaced by the student’s tutorial program grade. An override by Ms Sheila Quigley is required.

Spr CHEM0332 S01 24740 Arranged ’To Be Arranged’

CHEM 0350. Organic Chemistry.
Sequel to CHEM 0330. Investigates the constitution and properties of the different classes of organic compounds, with considerable attention to reaction mechanisms. The laboratory work involves an introduction to microscale preparative and analytical techniques of organic chemistry and the preparation of representative organic compounds. Three hours of lecture and five hours of prelaboratory and laboratory. Prerequisite: CHEM 0330.

Students MUST register for a common meeting, a lecture section, and a lab.
If you previously completed CHEM 0350 laboratory but received a grade of no credit in the course, please register for lab section 11.

Spr CHEM0350 S01 24743 MWF 9:00-9:50(02) ’To Be Arranged’

CHEM 0360. Organic Chemistry.
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. Three hours of lecture and five hours of prelaboratory and laboratory. Prerequisite: CHEM 0350.

Students MUST register for a lecture section, a lab and a conference.
If you previously completed CHEM 0360 laboratory but received a grade of no credit in the course, please register for lab section 11.

Fall CHEM0360 S01 16071 MWF 9:00-9:50(01) ’To Be Arranged’
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. Three hours of lecture and five hours of prelaboratory and laboratory attendance. Prerequisite: CHEM 0360.
Students MUST register for a lecture section and a lab.
Spr CHEM0500 S01 24749 MWF 11:00-11:50(04) "To Be Arranged"

CHEM 0970. Undergraduate Research.
Prerequisite: permission of the staff. Permission should be requested before the end of the preceding semester. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

CHEM 0980. Undergraduate Research.
See Undergraduate Research (CHEM 0970) 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.

CHEM 0980S. Undergraduate Research - Writing Designated and Mandatory S/NC.
Students in this independent undergraduate research course will be expected to work on several scaffolded writing assignments throughout the semester. As with all writing-designated courses, 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, CHEM 0970/0980. This independent study is Mandatory S/NC.

CHEM 0981. Undergraduate Research - Writing Designated.
Students in this independent undergraduate research course will be expected to work on several scaffolded writing assignments throughout the semester. As with all writing-designated courses, 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, CHEM 0970/0980.

CHEM 1060. Advanced Inorganic Chemistry.
Covers the physical and chemical properties of transition metal compounds as well as current research topics in inorganic chemistry. Laboratory is designed for the practice of modern inorganic chemistry through the synthesis and spectroscopic characterization of air-sensitive transition metal compounds. Prerequisite: CHEM 0500.
Fall CHEM1060 S01 16080 MW 8:30-9:50(01) "To Be Arranged"

CHEM 1140. Physical Chemistry: Quantum Chemistry.
An introduction to the quantum theory of chemical systems. Elements of quantum mechanics; electronic structure of atoms and molecules; study of molecular structure and behavior by spectroscopy; chemical bonding are all explored. Prerequisites: CHEM 0330, MATH 0180 or equivalent, PHYS 0030 and PHYS 0040 or PHYS 0050 or PHYS 0060 or PHYS 0070 and PHYS 0470 or ENGN 0030 and ENGN 0040.
Fall CHEM1140 S01 16100 MW 10:00-10:50(14) "To Be Arranged"

Examines the question: Where does chemical equilibrium come from? Focuses on macroscopic perspectives on chemical systems and the molecular origins of macroscopic behavior along with elements of statistical mechanics, the laws of thermodynamics, and the relationships between the two. Prerequisite: CHEM 1140 or written permission of the instructor.
Spr CHEM1150 S01 24752 MWF 10:00-10:50(03) "To Be Arranged"

CHEM 1160. Physical Chemistry Laboratory.
An introduction to modern instrumentation and experimental techniques as applied to physical chemistry. Experiments will emphasize application of the ideas of spectroscopy, kinetics, statistical mechanics, and thermodynamics to systems of chemical and biochemical interest. Required course for concentrators in chemistry. One to two afternoons of laboratory per week. Prerequisites: CHEM 1140 or permission of the instructor.
Spr CHEM1160 S01 24755 MW 1:00-2:50 "To Be Arranged"

CHEM 1230. Chemical Biology.
This course covers topics at the interface of chemistry and biology and, specifically, the use of chemical tools to probe biological systems. Using examples from the recent literature, we will discuss using the central methods of chemistry, namely the ability to design and synthesize compounds with a particular set of properties, to analyze biological problems. Specific topics include molecular recognition of DNA, artificial enzymes, small molecule sensors, and in vivo imaging of proteins, nucleic acids, and cell-surface carbohydrates. Prerequisites: CHEM 0360 and BIOL 0280. If enrollment exceeds the limit, permission to enroll will be allotted in the order: 1) first year graduate students, 2) senior concentrators in Chemistry or Biochemistry 3) junior concentrators 4) other students. Students who have registered or have permission to enroll must attend the first three classes or risk losing their places to someone on the waiting list.
Spr CHEM1230 S01 24756 TTh 9:00-10:20(01) "To Be Arranged"

CHEM 1240. Biochemistry.
Examines the chemical, mechanistic, and structural basis for enzymatic catalysis. Uses examples from the recent literature to examine how the experimental and conceptual tools of chemical synthesis, isotopic labeling, stereochemistry, enzymology, kinetics, and protein structure can be brought to bear to unravel the chemical and physical principles underlying the enormous catalytic acceleration and exquisite structural specificity of enzyme-catalyzed reactions. Prerequisites: Strong background in organic chemistry (CHEM 0360, A or B performance preferable) plus at least one semester of Biochemistry (BIOL 0280). Enrollment limited to: 25 students, written permission required.
Fall CHEM1240 S01 16101 TTh 9:00-10:20(02) "To Be Arranged"

CHEM 1450. Advanced Organic Chemistry.
Lectures cover topics of current interest in organic reaction mechanisms, synthesis, and structure determination. Laboratory emphasizes spectroscopic and separation techniques and modern synthetic methods. Prerequisite: CHEM 0360. Students MUST register for a lecture section, conference and a lab.
Spr CHEM1450 S01 24757 MW 8:30-9:50(02) "To Be Arranged"

CHEM 1560G. Nuclear Magnetic Resonance.
These special topics courses cover the basics of modern NMR spectroscopy. Topics to be included are as follows: modern Fourier transform methodology, modern NMR instrumentation, and a comprehensive discussion of one and two dimensional experiments that are routinely performed. Topics such as coherence transfer and pulsed field gradients will also be included. Experimental methods covered in detail include COSY, TOCSY, HSQC, HMBc, NOEY, ROEY, EXSY, and DOSY methodology. This course will not focus on structure determination or spectral interpretation but rather on experimental methodology.
Spr CHEM1560G S01 24759 MWF 11:00-11:50(04) "To Be Arranged"

CHEM 1560J. Topics in Bioinorganic Chemistry.
Covers current topics of bioinorganic chemistry with review of fundamental inorganic and biological chemistry. Topics include metal ion transport and storage, oxygen metabolism, electron transfer, respiration and photosynthesis, metal ion receptors and signaling, hydrolytic chemistry, metallo-neurochemistry, and medicinal bioinorganic chemistry. Students are strongly urged to complete both CHEM 0500 and CHEM 0360 prior to this special topics course.
Spr CHEM1560J S01 24760 MW 8:30-9:30 "To Be Arranged"

CHEM 1620B. Spectroscopy.
Prerequisite: CHEM 1140 or equivalent.
Fall CHEM1620B S01 16298 TTh 9:00-10:20(02) "To Be Arranged"
CHEM 1700. Nanoscale Materials: Synthesis and Applications. Focuses on synthesis, properties, and applications of nanoscale materials. It begins with the introduction to size-dependent properties and to general characterization methods of nanomaterials. It then outlines the synthesis, surface chemistry and self-assembly of nanomaterials. It further reviews catalytic, optical and magnetic properties of nanomaterials. Finally, the course highlights the applications of nanomaterials in information storage, energy conversion, and biomedicine. Prerequisites: CHEM0350, PHYS 0030 or 0050, BIOC1280 recommended.

CHEM 2010. Advanced Thermodynamics. Fundamental principles of macroscopic equilibrium thermodynamics. The three laws of thermodynamics, the thermodynamic potentials, temperature scales, heat engines and refrigerators, entropy, kinetic theory, and transport phenomena. Applications to solids, fluids, and magnetic systems; Gibbs relations, first and second order phase transitions, thermal radiation, gas expansions.

CHEM 2020. Statistical Mechanics. Introduction to modern equilibrium statistical mechanics, including the classical and quantum descriptions of ideal gases, the molecular basis of thermodynamics, the concepts of ensembles and fluctuations, and the implications of quantum mechanical indistinguishability. Applications include chemical and phase equilibria, the transition-state theory of chemical reaction rates, and the theory of liquids.

CHEM 2310. Organometallic Chemistry. Modern organometallic chemistry continues to find unique applications including next generation lighting displays, therapeutics and imaging, energy science, and green chemical synthesis. In this course we will briefly review fundamentals of inorganic chemistry (MO theory, ligand field theory, Pearson’s HSAB theory), and then delve into the structure, bonding, synthesis, reactivity, and mechanisms associated with organometallic complexes and their associated applications. Significant emphasis will be placed on effective oral and written communication skills, with frequent peer and instructor feedback provided. Prerequisites: CHEM 0360, CHEM 0500. PLEASE NOTE: This class is WRIT designated for Undergraduates Only. Graduate Students register for CHEM 2310.

CHEM 2410. Physical Organic Chemistry. Detailed examination of organic reaction mechanisms, reactive intermediates, and the methods employed for their characterization (e.g., kinetics, free energy relationships, isotope effects, molecular orbital theory, spectroscopy, and product distributions). Topics may include concerted, free radical, elimination, and photochemical reactions, and the chemistry of radicals, carbocations, carbanions, and carbenes.

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.

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.


CHEM 2780. Quantum Mechanics. Semester II: Lectures focus on the theory and application of electronic structure methods to describe both time-independent and time-dependent phenomena in chemical physics. Modern methods including Hartree-Fock Theory, Moller Plesset Perturbation Theory, Configuration Interaction, Coupled Cluster Theory, and Density Functional Theory will be described. Numerical techniques for implementing these methods will also be introduced and applications based upon problems in molecular spectroscopy will be outlined. Prerequisite: CHEM 2770.

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

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.

CHEM 2981. Thesis Preparation. For graduate students who have met the residency requirement and are continuing research on a full time basis.

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

Classics

Classics

CLAS 0210O. Sport in the Ancient Greek World. Athletics and sports were as popular and significant in the ancient Greek world as they are today, and so offer an excellent introduction to its archaeology and history. This class will discuss the development of Greek athletics, the nature of individual events, the social implications of athletic professionalism, women and athletics, and the role of sport in Greek education.

CLAS 0660. The World of Byzantium. Caught between the East and West, the culture of Byzantium inherited the ancient worlds of Greece, Rome, and Jerusalem, nurturing many a modern ideology, conflict, and identity. Byzantium is explored through its history, texts, and art. We examine the foundation and history of Constantinople, Iconoclasm, the Crusades, medieval Christianity and Islam, Byzantine court life, concepts of gender, self, and sexuality.

CLAS 0780. From Antiquity to the Humanities (via Humanism) and the History of Ideas. This course looks at the origins of several subjects in the Humanities in order to explain, question, and sometimes challenge the ways in which those subjects are studied or understood today. Consideration of sources for the Humanities today – in the educational practices of classical antiquity, in the ‘humanism’ of the Renaissance and in the 17th-20th centuries– will throw new light on ideas and categories which are central to western education. Topics include grammar/language, persuasive argument, scholarship; theory/practice of history, literature, poetry, fiction, fantasy, and the novel; relationship between words and images, and connections between studying the Humanities and being human.

For up-to-date course information please visit Courses@Brown.edu (https://cabs.brown.edu).
CLAS 0900. Greek Mythology.
What of these things goes now without disaster? -Aeschylus, Agamemnon
This 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 material (texts, images, monuments, rituals and traditions, etc.), with some secondary readings in mythological and cultural theory.
Spr CLAS0900 S01 25448 MWF 1:00-1:50(06) (P. Nieto Hernandez)

CLAS 1120E. Slavery in the Ancient World.
Examines the institution of slavery in the ancient world, from Mesopotamia and the Near East to the great slave societies of classical Greece and (especially) imperial Rome; comparison of ancient and modern slave systems; modern views of ancient slavery from Adam Smith to Hume to Marx to M.I. Finley. Readings in English.
Spr CLAS1120E S01 25449 TTh 10:30-11:50(09) (J. Bodel)

CLAS 1120H. The Invention of Literature: Literary Theory from Antiquity to the Renaissance.
Literature is a recent concept. We study the prehistory of its invention in Antiquity and the Middle Ages focusing on ideas about authorship, fiction, and practices of reading. The course is based on close reading of primary texts from classical Greco-roman and medieval Byzantine, Latin, and Arabic authors. Beyond theoretical discussions, primary readings include contemporary premodern literary texts.
Fall CLAS1120H S01 16948 TTh 1:00-2:20(08) 'To Be Arranged'

CLAS 1120U. The American Presidents and the Western Tradition.
We are accustomed to engaging the American presidency as a public office best approached through the prism of government or political science, but this course studies the ways in which the presidents in thought and action are part of a larger continuum of humanistic expression in the western tradition. It is organized around five categories: memory, language, consolation, farewell, and self-reflection. Our work involves reading and viewing/listening to various materials, including videos and original documents. The words we study, both by and about presidents, will be compared to various masterworks of Greco-Roman antiquity and the western Middle Ages.
Spr CLAS1120U S01 25450 MWF 11:00-11:50(04) (J. Pucci)

CLAS 1130. The Fragility of Life in Ancient Greece.
This interdisciplinary course explores the fragility of life in the Ancient Greek city-state from multiple perspectives: those of state-building, the population stress in the city, the capacity for the family to maintain and sustain itself, to those of the individual: man, woman, and child, whose life experiences left them vulnerable to disease and economic hardship. This course explores Ancient Greek socio-economic history addressing health, disease, fertility and childbirth, migration, mobility, and population and family 'management' as well as topics fundamental to historical demography (mortality, birth rates, and growth) over the longue durée approach (Archaic through Roman Imperial eras).
Fall CLAS1130 S01 17127 TTh 9:00-10:20(02) (G. Olver)

CLAS 1141. Ancient India in Modern America: Yoga, Ayurveda, and More.
One finds, in modern America, a variety of modes of engagement with aspects of India's ancient cultures, and debates about how to understand this engagement, as genuine appreciation or illicit appropriation. The course will prepare students to make a more informed critique or defense of such engagement, by closely comparing the modern American manifestations with aspects of ancient Indian culture which ostensibly inspired them. Readings will consist of ancient texts in translation paired with scholarship on their modern counterparts. Topics include: Yoga, Ayurveda, Buddhism, Kamasutras, Monistic Vedanta, and Vaishnava Theism.
Spr CLAS1141 S01 25619 MWF 10:00-10:50(03) (D. Buchta)

This course explores the history of impeachment trials in Athens, Britain, and the USA. We study some of the early deployments of impeachment (esianelia in Greek) at Athens, its brief flourish in fourteenth century Britain, and its flowering in the seventeenth and eighteenth centuries. Subsequently we turn to the impeachment of Warren Hastings in 1788-1795 and then to the earliest impeachments in the US. We keep in mind the different time periods and governmental structures (direct democracy, monarchy with parliament, representative democracy) and investigate how legal processes—and their rhetoric—function in each of them.
Spr CLAS1175 S01 25441 Th 4:00-6:30(17) (A. Scaffo)

CLAS 1202. Foundations Classical Heritage (HIST 1202).
Interested students must register for HIST 1202.
Fall CLAS1202 S01 17168 Arranged 'To Be Arranged'

CLAS 1310. Roman History I: The Rise and Fall of an Imperial Republic.
The social and political history of Ancient Rome from its origins to the death of Augustus in 14 CE. Focuses on the social conflicts of the early Republic; the conquest of the Mediterranean and its repercussions; the breakdown of the Republic and the establishment of monarchy. Readings emphasize ancient sources in translation.
Spr CLAS1310 S01 25452 TTh 1:00-2:20(08) 'To Be Arranged'

CLAS 1320. Roman History II: The Roman Empire and Its Impact.
The social and political history of the Roman Empire (14-565 CE). Focuses on expansion, administration, and Romanization of the empire; crisis of the 3rd century; militarization of society and monarchy; the struggle between paganism and Christianity; the end of the Empire in the West. Special attention given to the role of women, slaves, law, and historiography. Ancient sources in translation.
Fall CLAS1320 S01 16949 MWF 11:00-11:50(16) (J. Bodel)

CLAS 1430. The Cultures of Roman Imperialism (HMAN 1974U).
Interested students must register for HMAN 1974U.
Fall CLAS1430 S01 17203 Arranged 'To Be Arranged'

CLAS 1441. Merchants, Trade, and Commerce in the Roman World.
Exotic spices, fermented fish sauce, mass-produced pottery, olive oil, fine wine, not so-fine wine, marble, bricks, metals, people, art, elephants – these are just a few of the things that the Romans traded. This course draws on archaeological, literary, and epigraphic material to investigate the world of Roman trade from the goods that were moved, to the logistics of transport, to the merchants and traders themselves. Who ventured to India in search of spices? Who ran the local wine shop? How were colossal columns transported across deserts?
Spr CLAS1441 S01 25728 TTh 2:30-3:50(11) (C. Rice)

CLAS 1750V. God of the Greek Philosophers (HMAN 1974V).
Interested students must register for HMAN 1974V.
Spr CLAS1750V S01 25813 Arranged 'To Be Arranged'

CLAS 1930C. Parasites and Hypocrites.
The course is a study of the many forms of toadying, groveling, feigning friendship, flattery, ass-kissing, and so on, that were such a large of source of concern — and comedy — in antiquity. The anxieties over hypocrisy in a democracy and parasites in client-patron systems will be explored historically, in literary representations, and in their social, political, and economic contexts. Authors to be read include Aristophanes, Plutarch, Lucian, Plautus, Horace, and Petronius.
Fall CLAS1930C S01 16951 TTh 9:00-10:20(02) (K. Haynes)

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.
CLAS 2080H. Topics in Roman Republican History.
This seminar will examine some of the major controversies in Roman Republican history, with possible excurses to the archaic and triumviral periods. The focus will be on political and cultural history, and on questions of method and theory. Topics will be partially dictated by student interest. Assessment include student presentations and leading discussions, writing an abstract for a term paper, and a term paper.
Fall CLAS2080H S01 17128 M 3:00-5:30(05) ‘To Be Arranged’

CLAS 2100G. The World of Late Antiquity.
Focused on the Mediterranean world between the third and ninth centuries CE, this seminar introduces students to the study of late antiquity and the early middle ages from a multidisciplinary perspective. Class sessions focus on the intensive reading of a small collection of closely-related primary sources in the original language and contextualizing them through a grounding in other disciplines essential to the study of ancient and medieval history, including archaeology, codicology, palaeography, numismatics, and prosopography. Topics vary by semester and may include such themes as the body, emotional and psychological histories, trauma, slavery, violence, “barbarians,” or interfaith interaction.
Prerequisite: Latin

How does writing make us see? We will study rhetorical concepts of “vivid description” (enargeia, phantasia, evidentia) from ancient Greek and Roman theory and literary practice and follow their reception in later periods and literary traditions, including modern evaluations of their significance (all readings in English). Taking texts from poetry, historiography, philosophy, and elsewhere, we will explore “vividness” particularly in terms of tropes of persona-fashioning (prosopopeia) and subject-positioning, with attention to the ethical and ideological implications that may entail, and explore its relations with such topics as ecphrasis, narratology, and spectacularity.
Prerequisite: Latin

CLAS 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.

CLAS 2490. 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 2970. Thesis Preparation.
For graduate students who have met the residency requirement and are continuing research on a full time basis.

CLAS XLIST. Courses of Interest to Classics Concentrators.

Greek

GREK 0100. Essentials of the Greek Language.
A two-semester approach to ancient Greek with special emphasis on developing facility in rapid reading of Greek literature. Selections from Attic Greek authors. No previous knowledge of Greek is required.
Fall GREK0100 S01 16952 MWF 1:00-1:50(06) (J. Hanink)

GREK 0110. Introduction to Ancient Greek.
Intensive, one-semester introduction to Greek. No previous knowledge of Greek is required. This is a double credit course.
Spr GREK0110 S01 25453 TTh 12:00-12:50(02) ‘To Be Arranged’
Spr GREK0110 S01 25453 MWF 9:00-9:50(02) ‘To Be Arranged’

GREK 0200. Essentials of the Greek Language.
Second half of a two-semester approach to ancient Greek with special emphasis on developing facility in rapid reading of Greek literature. Selections from Attic Greek authors. No previous knowledge of Greek is required.
Spr GREK0200 S01 25457 MWF 10:00-10:50(03) ‘To Be Arranged’

GREK 0300. Introduction to Greek Literature.
Introduction to Greek literature through intensive reading. Prerequisite: GREK 0200, GREK 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, ἐρως and its role in personal relationships, education, and even politics.
Fall GREK0300 S01 16953 MWF 12:00-12:50(15) ‘To Be Arranged’

GREK 0400. Introduction to Greek Literature.
Prerequisite: GREK 0300 (or the equivalent). Review of grammar of the Attic dialect through rapid reading of texts by Lysias, Plato, or Xenophon. Emphasis on syntax and style.
Spr GREK0400 S01 25458 MWF 2:00-2:50(07) ‘To Be Arranged’

GREK 1050A. Aristophanes.
Addresses students with at least an intermediate-level command of Ancient Greek, but previous knowledge of Aristophanic language and poetry is not required. We will read in the original language Aristophanes’ Frogs, and study different aspects (language, meter, historical background, theatrical performances, literary interpretations, etc.) of this play and of Aristophanic comedy generally. Frogs, composed towards the end of the Peloponnesian War, is one of Aristophanes’ most puzzling plays. It presents a fantasy (and comic!) vision of the afterlife and, indirectly, informs us about the literary criticism of the time.
Spr GREK1050A S01 25459 MWF 10:00-10:50(03) (P. Nieto Hernandez)

GREK 1080. Attic Orators.
No description available.
Fall GREK1080 S01 17015 TTh 2:30-3:50(12) (A. Scafuro)

GREK 1090. Athenian.
In the fourth century BCE, Athenians already looked back with nostalgia on a fifth-century “Golden Age”—on the age of “Periclean Athens.” The third quarter of the fourth century did nevertheless see the rise of a statesman, Lycurus, who rivalled Pericles in reputation and influence. The “Lycuran Era” was a time of cultural efflorescence in Athens, but also one in which the city lived increasingly under the threatening shadow of Macedon. In this course we read, in Greek, one or more texts from the Lycuran Era, Athens “Silver Age.” (Possible authors include Aristotle, Demosthenes, Aeschines, Lycurgus, Hyperides.)
Spr GREK1090 S01 25601 TTh 9:00-10:20(01) (J. Hanink)

In this class we will read Books I, II, III, and X of Aristotle’s Nicomachean Ethics and discuss his treatment of the highest human good, moral virtue, the doctrine of the mean, and his theory of action.
Spr GREK11100C S01 25464 TTh 1:00-2:20(08) (M. Gill)

GREK 1150. Greek Prose Composition.
Survey of Greek grammar and an opportunity to reflect on problems of translation. Main goals: to improve the students’ command of prose syntax (both in reading and writing), and to develop a keen sensitivity towards issues of translation. A variety of texts written in Attic prose are read and analyzed in class. Students are expected to write two to three compositions a week in good Attic prose. Advanced knowledge of ancient Greek is a prerequisite for this course.
Spr GREK1150 S01 25466 MWF 2:00-2:50(07) (A. Scafuro)
GREK 1810. Greek Literature Survey to 450 BCE.
Surveys early Greek literature to 450 BCE. Works studied include the
Iliad, Odyssey, the Hesiodic poems, Pindar, Bacchylides, and Aeschylus.
Emphasis on literary interpretation, the poetics of oral poetry, and the early
history of various literary genres. Extensive readings in the original.
Fall GREK1810 S01 16955 MWF 10:00-10:50(14) (J. Hanink)

GREK 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.

GREK 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 GREK2970 S01 15483 Arranged 'To Be Arranged'
Spr GREK2970 S01 24283 Arranged 'To Be Arranged'

GREK 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.

GREK 2990. Thesis Preparation.
For graduate students who have met the residency requirement and are
continuing research on a full time basis.
Fall GREK2990 S01 15484 Arranged 'To Be Arranged'
Spr GREK2990 S01 24284 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 16956 MWF 12:00-12:50(15) 'To Be Arranged'

LATN 0110. Introduction to Latin.
This course offers a rapid introduction to the Latin language and
grammar. As a one-semester introduction to material often covered in
two semesters, this course carries two credit hours instead of one.
The workload for this course is correspondingly heavy; students may expect
an average of ten hours of homework—including memorization, practice,
and preparation of vocabulary and grammar—per week. There are no
prerequisites for this course.
Spr LATN0110 S01 25467 TTh 12:00-12:50(02) 'To Be Arranged'
Spr LATN0110 S01 25467 MWF 9:00-9:50(02) 'To Be Arranged'

LATN 0200. Essentials of the Latin Language.
Second course in an intensive two-semester approach to Latin. Special
emphasis on developing facility in the rapid reading of Latin literature.
No previous knowledge of Latin is required prior to taking this two course
sequence.
Spr LATN0200 S01 25471 MWF 12:00-12:50(05) '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 16957 MWF 10:00-10:50(14) 'To Be Arranged'

LATN 0400. 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).
Spr LATN0400 S01 25465 MWF 12:00-12:50(05) 'To Be Arranged'

LATN 1040A. Vergil: Eclogues and Georgics.
Vergil, most famous as the poet of the Aeneid, began his career with
two smaller masterpieces: a collection of ten bucolic poems (Eclogues)
modeled on the idylls of the Hellenistic poet Theocritus, and a didactic
work on agriculture in four books, the Georgics, which found its inspiration
both in Hellenistic models and in more recent Roman antecedents
(including Lucretius' De Rerum Natura) and is viewed by many as the
poet's finest achievement. We will read selections from both works,
concluding with the epithalamion at the end of Georgics Four, which relates the
tragic love story of Orpheus and Eurydice.
Spr LATN1040A S01 25462 TTh 10:30-11:50(09) (J. Debrohun)

LATN 1060D. Sallust, Livy, and Tacitus.
Three major Roman historians provide a basis for study of style, intent,
veracity, and stature.
Fall LATN1060D S01 16958 MWF 1:00-1:50(06) 'To Be Arranged'

LATN 1060I. Senecan Tragedy.
Close reading and thorough translation of two Senecan revenge
tragedies, the Medea and Thyestes. Emphasis will be on translation of
the Latin, but as time permits we will also be discussing the two plays
in their mythological, cultural, historical, and performance contexts.
Students should already have four semesters of Latin (LATN 0400) or the
equivalent.
Fall LATN1060I S01 16959 MWF 11:00-11:50(16) (J. Debrohun)

LATN 1110F. Fortunatus.
Wide reading in the occasional poetry of the most prolific writer of the early
Middle Ages, attending to diction, meter, imagery, allusion, and paying
special attention to the (homo- and hetero-) erotic pieces written to the
poet's friends.
Spr LATN1110F S01 25461 MWF 1:00-1:50(06) (J. Pucci)

LATN 1110G. Latin Love Elegy.
Reading of representative selections from each of the Roman elegists:
Tibullus, Propertius, and Ovid. Discussion also of the origins and
development of love elegy at Rome and exploration of the themes and
topi that define the genre. Follows the poets' negotiations with various
discourses and ideologies in Augustan Rome: literary, social, sexual, and
political.
Fall LATN1110G S01 16960 MWF 2:00-2:50(07) (J. Debrohun)

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 Fronto.
Spr LATN1110Y S01 25460 TTh 2:30-3:50(11) (J. Bodel)

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 16961 TTh 10:30-11:50(13) (A. Laird)

LATN 1820. Survey of Roman Literature II: Empire.
This course will survey the major authors of Latin literature in chronological
order from Virgil.
Spr LATN1820 S01 25455 MWF 11:00-11:50(04) (J. Reed)

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.

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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 15500 Arranged "To Be Arranged"
Spr LATN2970 S01 24298 Arranged "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 15501 Arranged "To Be Arranged"
Spr LATN2990 S01 24299 Arranged "To Be Arranged"

Modern Greek

MGRK 0100. Introduction to Modern Greek. Designed for students with little or no prior knowledge of Modern Greek. 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. The course objectives are to enable students to perform a range of tasks, master a minimum core vocabulary and acquire knowledge and understanding of various forms of Greek culture.
Fall MGRK0100 S01 16962 MWTTh 12:00-12:50 (E. Amanatidou)
Spr MGRK0200 S01 25451 MWTTh 12:00-12:50 (E. Amanatidou)

MGRK 0200. Introduction to Modern Greek. A continuation of MGRK 0100. New students may place into it, after special arrangement with the instructor. The course continues on an integrative skills approach and aims to develop language skills, within a framework of specific topics and functions. The course objectives are to enable students to perform a range of tasks, master a minimum core vocabulary and acquire knowledge and understanding of various forms of Greek culture.
Fall MGRK0300 S01 16968 TTh 10:30-11:50(13) (E. Amanatidou)
Spr MGRK0400 S01 25446 TTh 10:30-11:50(09) (E. Amanatidou)

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. A continuation of MGRK 0300. New students may place into it, after special arrangement with the instructor. It aims to enhance language skills within a variety of registers and themes; enables the students to master, use and understand effectively essential linguistic structures; examine a variety of expressive forms within an authentic cultural context.
Fall MGRK0500 S01 16969 Arranged (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 16969 Arranged (E. Amanatidou)

MGRK 0600. Advanced Modern Greek. A continuation of MGRK 0500. Students who have not taken the previous sequence may take a placement test, after consultation with the instructor. The course aims to promote range, accuracy and fluency and enable students to develop ease and spontaneity with the language. Authentic materials drawn from a range of sources inform the content of the course and include films, literature, media, testimonies, music and internet based sources. The development of transcultural competence will be an essential component of the course.
Fall MGRK0600 S01 25444 Arranged (E. Amanatidou)
Spr MGRK0600 S01 25446 Arranged (E. Amanatidou)

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

MGRK 2200. Modern Greek for Classicists and Archaeologists. This graduate level course promotes the acquisition and further refinement of the necessary translational and transcultural skills to prepare students in the fields of Classics and Archaeology to carry out research in Greece and Cyprus. In addition, it involves training in linguistic skills that will enable students to study closely a range of texts of relevance to these disciplines. Primary emphasis will be on the development of reading, oral and aural skills using a variety of text and web based materials, of discipline specific content but also in professional and other communicative contexts of cultural currency.
Fall MGRK2200 S01 25443 Arranged (E. Amanatidou)

Sanskrit

SANS 0100. Elementary Sanskrit I. This course introduces Sanskrit to students who have no prior knowledge of any language other than English. Students quickly learn to read the Devanagari script and study the basics of the sound-system of Sanskrit. The course rapidly surveys the basics of Sanskrit grammar while using adaptations of classical Indian myths and stories as reading exercises. Fall SANS0100 S01 17132 MWF 12:00-12:50(15) (D. Buchta)
Spring SANS0100 S01 25729 MWF 12:00-12:50(05) (D. Buchta)

SANS 0200. Elementary Sanskrit II. This course continues the survey of grammar and the reading exercises of SANS 100. The second half of this course reads selected passages of the Bhagavad Gitā and the beginning of the classic story of Nala and Damayánti from the Mahábhárata. Prerequisite: SANS 0100.
Fall SANS0200 S01 25729 MWF 12:00-12:50(05) (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 17133 MWF 10:00-10:50(14) (D. Buchta)

SANS 1400. The Sanskrit Grammatical Tradition. Introduction to the Sanskrit tradition of vyākaraṇa (grammatical derivation and analysis) through reading Páñiní's Āstādhyāyī and commentaries upon it.
Fall SANS1400 S01 25589 MWF 1:00-1:50(06) (D. Buchta)

SANS 1600. Sanskrit Poetry and Drama. Introduction to kāvyā (classical Sanskrit belles lettres)—poetry, drama, and prose narrative—through the reading of authors of the Classical Period as well as works on aesthetics and commentaries upon them.
Fall SANS1600 S01 17098 MWF 9:00-9:50(01) (D. Buchta)


SANS 1990. Conference: Especially for Honors Students. 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.

SANS 2970. Sanskrit 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 SANS2970 S01 15533 Arranged "To Be Arranged"
Spr SANS2970 S01 24322 Arranged "To Be Arranged"

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
SANS 2980. Sanskrit Reading and Research.
Section numbers will vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course. Instructor permission required.

Cognitive, Linguistic and Psychological Sciences
Cognitive, Linguistic and Psychological Sciences

This course will provide an interdisciplinary approach to the science of the mind through lens 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 16849 MWF 11:00-11:50(16) (E. Festa)

The topic of this course is the scientific study of animal behavior, based on the theoretical framework proposed by Nobel Prize winner Niko Tinbergen. This framework addresses four basic questions about behavior: its evolutionary history, its function, its development, and its causation (underlying mechanisms). Using Tinbergen’s framework, we will study two major categories of behavior – mating and aggression – in a range of animal species.
Fall CLPS0110 S01 16850 MWF 12:00-12:50(16) (A. Simmons)

CLPS 0120. Introduction to Sleep.
This course uses sleep as the focal point for describing complex behavioral phenomena. How is sleep measured and defined? How does sleep differ across species? What accounts for the timing of sleep? How does sleep change with age? What are the behavioral, physiological, and cognitive concomitants of different states of sleep? How can dreaming be understood? What can go wrong with sleep? Recommended prior coursework: CLPS 0011 or NEUR 0010, or AP course in psychology or physiology.
Fall CLPS0120 S01 16851 W 3:00-5:30(17) (M. Carskadon)

This course aims to convey fundamental knowledge and understanding of Behavioral Neuroscience with a focus on Biological Psychiatry. Biological Psychiatry represents a multidisciplinary approach towards understanding psychiatric disease with input from the fields of genetics, biochemistry, molecular biology, and neurobiology. The course will begin by introducing principles of Behavioral Neuroscience and then introduce Biological Psychiatry. We will then elucidate some of the more prevalent psychiatric disorders affecting the general population. Subsequent material will cover scientific approaches and techniques commonly used in the field of Biological Psychiatry to investigate the causes, underlying biological mechanisms, and therapeutic interventions relevant for psychiatric disorders.
Spr CLPS0150 S01 25334 T 4:00-6:30(16) (K. Batm)

CLPS 0220. Making Decisions.
Life is full of decisions. Some decisions are made rationally, others could be improved. This course considers the psychology of human decision-making, the analysis of optimal decision-making, and implications for individual action and social policy. Topics include: chance and preference (e.g., how do consumers weigh attributes when making purchases?); the value of information (e.g., when should physicians order expensive diagnostic tests?); risky choice (e.g., is it rational to play the lottery?).
Spr CLPS0220 S01 25335 TTh 2:30-3:50(11) (S. Sloman)

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 the principles underlying phonology (the principles that govern how sounds are put together), syntax (the rule system governing sentence structure), and semantics (the system that relates sentences to meanings).
Fall CLPS0300 S01 16852 TTh 1:00-2:20(08) (G. AnderBois)

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.
Fall CLPS0400 S01 16854 TTh 9:00-10:20(02) (D. Amso)

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 16855 MWF 1:00-1:50(06) (W. Heindel)

CLPS 0500. Perception and Mind.
How do the mind and the brain take physical energy such as light or sound and convert it into our perception of the world? This course examines the behavioral and biological bases of human and animal perceptual systems, including vision, audition, smell, taste, and touch. Particular emphasis is placed on high-level perception and how it relates to other cognitive systems.
Fall CLPS0500 S01 16856 MW 8:30-9:50(01) (J. Song)

An examination of children's thinking and cognitive development from infancy to middle childhood. 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 25337 TTh 1:00-2:20(08) "To Be Arranged"

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 16857 TTh 2:30-3:50(12) (O. FeldmanHall)

CLPS 0710. The Psychology and Philosophy of Happiness.
The course explores four fundamental questions about happiness: What is happiness—pleasure, life satisfaction, something else? How is happiness achieved—what are the myths and realities about what conduces to happiness? Can happiness be achieved—are we naturally well suited to be happy? Why pursue happiness—is it sufficient, or even necessary, for a good life? The course examines classic contributions from philosophy and psychology, the two disciplines that have studied happiness most extensively. Team-taught by professors from both philosophy and psychology, it invites students to compare and combine both approaches.
Spr CLPS0710 S01 25338 MWF 12:00-12:50(02) (J. Krueger)

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
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 25339 MW 1:00-1:50(08) (J. Morgan)

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 16858 MW 8:30-9:50(15) "To Be Arranged" Spr CLPS0900 S01 25340 MW 8:30-9:50(07) "To Be Arranged"

CLPS 0950. Introduction to programming.
This course will provide an introduction to matlab programming for students in the life sciences with no prior programming experience. At the end of the course, students will be able to implement matlab functions independently to solve many common programming challenges associated with the study of the mind, brain and behavior — from conducting sophisticated data analyses to parsing complex data files to implementing psychophysics experiments. The course is designed for students in psychology, cognitive science, neuroscience and other non-computer science majors interested in learning matlab. Beyond teaching specific coding skills, this course will support students' development as computational thinkers.
Spr CLPS0950 S01 25341 MWF 10:00-10:50(03) (S. Serre)

CLPS 1150. Memory and the Brain.
This flipped course is for undergraduate and beginning graduate students of psychology, cognitive neuroscience, and biology who are interested in biological research on memory. There are three parts: 1) the genesis of modern research on memory, 2) the hippocampus and beyond, and 3) multiple brain memory systems. The course is designed to be accessible to students in a variety of disciplines, but requires background in psychology, cognitive science, or neuroscience. Class will include online lectures, writing assignments, reading primary research articles, and presenting research articles. Prerequisite: CLPS 0010, CLPS 0020, CLPS 0040, CLPS 0200, or NEUR 0010.
Fall CLPS1150 S01 16883 TTh 10:30-11:50(13) (R. Burwell)

CLPS 1191. Animal Behavior Laboratory.
This course is designed for students with a serious interest in animal behavior research. Topics include methods in lab and field research, enrichment programs for captive species and conditioning procedures for managing zoo and shelter animals. Prerequisites: CLPS 0900 (COGS/PSYC 0090). Enrollment limited to 12: not open to first year students.
Fall CLPS1191 S01 16963 Arranged (R. Colwill)

CLPS 1195. Life Under Water in the Anthropocene.
Aquatic ecosystems are under intense pressure from a variety of anthropogenic stressors. Through lectures, discussion and authentic research projects, this course will explore the impact of some of those stressors on the development and behavior of the most vulnerable, the developing young. Topics include the impact of anthropogenic stressors on local and global ecosystems; the behavioral biology, embryonic development, and behavior of two animal models, zebrafish and Xenopus laevis; basic research techniques for studying the development and behavior of fish and frogs; and skills needed to conduct authentic scientific research. Students will design, conduct and present an authentic research project.
Fall CLPS1195 S01 16884 Th 2:30-3:50(12) (R. Colwill) Fall CLPS1195 S01 16884 T 2:30-3:50(12) (R. Colwill)

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 25344 MWF 11:00-11:50(04) (K. Spoehr)

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 rule-based and constraint-based approaches to phonology. Implications for language learning and language change are discussed. Prerequisite: CLPS 0030.
Spr CLPS1310 S01 25345 MWF 10:00-10:50(03) (U. Cohen Priva)

CLPS 1331. Linguistic Variation and Universals.
As anyone who has tried to learn a foreign language knows, languages differ from one another in numerous ways both superficial and profound. Although there are many different ways in which syntactic structure varies across languages, this variation is not limitless; it is subject to principled constraints, and different logically independent dimensions of variation often turn out to be highly correlated with one another. This course explores language universals and the range of cross-linguistic variation in the domain of morphosyntax, what limits this variation appears to have, and what functional, formal, and semantic principles underlie this variation.
Spr CLPS1331 S01 25346 MWF 10:00-10:50(03) (P. Jacobson)

CLPS 1341. Lexical Semantics.
The representation of word meaning and generalizations about the way in which meanings are packaged into words. Topics include: "fuzzy" meanings, natural kind terms, how word meanings are decomposed. Special emphasis on how temporal properties are encoded, on the status of "thematic relations," and on how the fine-grained structure of word meanings impacts on the syntax. Recommended prerequisite: CLPS 0030 (COGS 0410).
Spr CLPS1341 S01 25348 TTh 9:00-10:20(01) (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.
Fall CLPS1360 S01 16859 MWF 10:00-10:50(14) (U. Cohen Priva)

CLPS 1361. Information Theory in Language.
Information theory is used to study the abstract properties of communication systems. Can it improve our ability to understand language? We will examine how the need to communicate predicts several linguistic phenomena. We will discuss information theoretic effects on multiple levels of linguistic analysis, including phonetics, phonology, and syntax. We will contrast concepts such as frequency, predictability, informativity, and functional load, and see how they can each apply to existing linguistic questions.
Fall CLPS1361 S01 16860 TTh 9:00-10:20(02) (U. Cohen Priva)

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.
Spr CLPS1370 S01 25347 TTh 10:30-11:50(09) (S. AnderBois)

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
CLPS 1390. Linguistic Field Methods
A lab/practicum course introducing the methodologies needed to collect, manage, and interpret primary data pertaining to the phonetic, phonological, morphosyntactic, semantic, and pragmatic properties of an understudied language. The course takes a hands-on approach, with students working in groups and individually with a native speaker consultant of an unfamiliar language. Students will learn how to test hypotheses about the language as well as construct grammatical descriptions. In addition, the course will cover a variety of practical, technological, interpersonal, cultural, and ethical issues typically encountered in fieldwork. Pre Requisite: CLPS 1310 and one other 1300-level course in CLPS or instructor permission.
Spr CLPS1390 S01 25350 TTh 2:30-3:50(11) (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 0400 or CLPS 0200 or CLPS 0400 or NEUR 0010. CLPS 0900 is also strongly recommended.
Spr CLPS1420 S01 25352 MWF 11:00-11:50(04) (E. Festa)

CLPS 1478. Translational Models of Neuropsychiatric Disorder
This course will be an upper level seminar course focused on reading and understanding the primary literature related to the use of animals to model human neuropsychiatric disorders. Throughout the course we will discuss the appropriateness, use, and limitations of animal models for studying human pathology. We will discuss a range of topics building from basic concepts of evolution, development, and genetics to the practice of using animals to study aging and memory function, affective pathology, and developmental disorders. Prerequisites: CLPS0010 or NEUR0010; and preferably at least one of the following: CLPS1150, CLPS1480, CLPS0400, CLPS0100, CLPS2100, NEUR1740; NEUR1540.
Fall CLPS1478 S01 16864 MW 8:30-9:50(01) (K. Bath)

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 0040 (COGS 0720), CLPS 0400 (PSYC 0470)) or permission of the instructor. Preference will be given to senior concentrations in Psychology and related areas. Enrollment limited to 20.
Spr CLPS1480B S01 25353 TTh 10:30-11:50(09) (E. Festa)

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 16865 TTh 1:00-2:20(08) (M. Frank)

CLPS 1495. Affective Neuroscience.
This course will survey key topics and methods in research on the neuroscience of affect and emotion. It is ideally suited for advanced undergraduates or graduate students who have taken an introductory cognitive neuroscience and/or psychology course. This course will use a variety of behavioral and neuroscientific data to examine the structure of affect/emotion; how affective processes shape cognition and action; how cognition in turn shapes affect; and the nature of variable affective reactions within/across individuals. The course will include in-class presentations, discussions, short lectures, short and long forms of reading responses, and a final research proposal.
Fall CLPS1495 S01 16872 T 4:00-6:30(09) (A. Shenhav)

CLPS 1500. Perception and Action.
The ecological approach treats perceiving and acting as activities of agent-environment system rather than an isolated “mind,” and offers an alternative to the prevailing computational/representational view. Topics include inferential and direct perception, perception of the 3D environment, visual control of action, dynamics of motor coordination, and self-organization of behavior. Lecture and discussion. Prerequisite (any one of the following): CLPS 0010 (PSYC 0010), CLPS 0200 (COGS 0010), CLPS 0500 (COGS/PSYC 0440), or CLPS 0510 (COGS 0110).
Spr CLPS1500 S01 25354 TTh 10:30-11:50(09) (W. Warren)

CLPS 1540. Perceiving and Acting in 3D.
How does visual stimulation inform the brain about the three-dimensional structure of the world? What information is important for complex organisms, like humans and other primates, to be able to successfully interact with the surrounding environment? In this course we will examine how different sources of visual information such as stereo, contours, texture gradients, shading, and optic flow contribute to the vivid experience of 3D shape by the human visual system. Moreover, connections will be made to the mechanisms that govern goal directed actions, in order to unveil the commonalities between 3D processing for conscious perception and visuomotor mappings.
Fall CLPS1540 S01 16866 T 4:00-6:30(09) (F. Domini)

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. Enrollment limited to 40.
Spr CLPS1560 S01 25355 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. Recommended prerequisites: CLPS 1291, 1500, and 1520.
Spr CLPS1570 S01 25356 F 3:00-5:30(15) (T. Watanabe)

CLPS 1580C. Visualizing Information.
There has been an explosion of interest in how to present information in a visual way rather than as a bunch of boring numbers. Visualizations can be outstanding at conveying information, but there have also been colossal failures. We will explore the good, the bad, and the ugly and harness knowledge of visual perception to understand why some are more successful than others. Someone interested in how to create effective visual displays (posters, infographics) would benefit from this course. Some background in visual perception is recommended such as a CLPS or NEUR course about vision or familiarity with graphic design.
Spr CLPS1580C S01 25357 TTh 2:30-3:50(11) (L. Welch)

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

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CLPS 1620. Developmental Cognitive Neuroscience.
This course will examine fundamental topics in cognitive development from the point of view of the developing brain. Topics of interest will include developing abilities in perception, attention, action, object concepts, memory, learning, planning, language, and social cognition. Typical and atypical brain development will be considered. Prerequisite: One of CLPS 0600 (PSYC 0610), CLPS 0610 (COGS 0630), EDUC 0800, or permission of the instructor. Enrollment limited to 40.
Spr CLPS1620 S01 25385 T 4:00-6:30(16) (D. Amso)

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 16861 TTh 1:00-2:20(08) (J. Morgan)

CLPS 1690. Laboratory in Developmental Psychology.
Conceptual and methodological foundations of research design and analysis in developmental psychology, with particular reference to techniques commonly used in studying cognitive development. We will cover general principles of experimental design, measurement and assessment, and strategies of data analysis. Practical and ethical issues involved in conceiving, designing, executing, interpreting, and presenting research will be considered. Recommended prerequisites: CLPS 0610 (COGS 0630), and CLPS 0900 (COGS/PSYC 0090) or equivalent. Enrollment limited to 15.
Spr CLPS1690 S01 25359 Th 4:00-6:30(17) (D. Amso)

CLPS 1700. Abnormal Psychology.
The study of anxiety, stress, and neurotic disorders, psychosomatic disorders, deviant social behavior, affective disorders, and schizophrenia. Considers theories of etiology (causes) and methods of therapeutic treatment, case studies, experimental research, and clinical research.
Spr CLPS1700 S01 25342 MWF 9:00-9:50(05) To Be Aranged

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 16888 TTh 10:30-11:50(13) (J. Krueger)

CLPS 1750. Blame and Punishment.
This hybrid lecture/seminar course provides a scientific investigation of two related but distinct forms of human moral regulation: blame and punishment. Students will be exposed to the interdisciplinary literature on moral judgment and moral sanctions, drawing on psychology, cognitive science, behavioral economics, sociology, history, law, and anthropology. Students will learn about the cognitive, social, and affective differences between blame and punishment, about their distinct cultural history and institutional dynamics, and about their functional and dysfunctional uses. Students will critically examine core research articles on the topics, and they will present, discuss, and write about their responses to the work.
Fall CLPS1750 S01 17041 TTh 2:30-3:50(12) (B. Malle)

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.
Spr CLPS1760 S01 25329 Th 4:00-6:30(17) (O. Feldman/Hall)

CLPS 1770. Stigma and Prejudice.
This seminar focuses on empirical research ranging across several topics in the psychology of prejudice, stereotyping, discrimination, and social stigma. We will read, interpret, and discuss quantitative research in social psychology (i.e., studies that contain statistics in their results) and the implications of these scholarly contributions to our knowledge of the inner workings of intergroup behavior. This includes understanding individual differences and contexts related to exhibiting prejudicial behaviors (prejudice/bias), the implications of this behavior for targets of discrimination (stigma), and contributions of each of these to how groups and group members interact with one another in society (intergroup relations).
Spr CLPS1770 S01 25360 TTh 1:00-2:20(08) (M. Boykin)

CLPS 1880F. Logic in Language and Thought.
The best theories of how language conveys meaning propose that word meanings have an abstract and formal logical structure. But how could young children figure this out? This course is going to look at the most abstract and logical words words as case studies: e.g. not, and, or, every, some, if… then. In each case, we will first try to understand the relationship between these word meanings and the corresponding logical operators. We will then ask, how could these words be learned? We’ll draw on existing research across the cognitive sciences, and come up with next steps of our own.
Fall CLPS1880F S01 16862 Th 4:00-6:30(04) (R. Feiman)

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)
Spr CLPS1900 S01 25343 TTh 1:00-2:20(08) (A. Shenhav)

CLPS 1901. Research Methods.
This course is designed to provide CLPS concentrators (Cognitive Science/ Cognitive Neuroscience/Psychology) with a variety of tools needed to conduct research: sources of data, standard experimental designs, and research ethics. The course will include lectures, section meetings, data collection, statistical analyses, and written and oral reports. This is not a laboratory course.
Fall CLPS1901 S01 16964 MWF 2:00-2:50(07) (L. Welch)

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 16869 F 3:00-5:30(11) (J. Krueger)

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

This course examines England’s mid-seventeenth century revolution, looking at high and low politics, the rise of popular radicalism, and the conflict in the empire. Themes explored include: the trial of Charles I, the commonwealth, 1649-53; the Ranters and the sexual revolution; the Differ commune at St. George’s Hill; Oliver Cromwell’s war crimes in Ireland; Cromwell as Lord protector, 1653-58; the social and gender egalitarianism of the Baptists, Quakers, and Fifth Monarchists; the revolutions in the Caribbean and Atlantic; and the Western Design and capture of Jamaica. 
Fall HMAN1974Q S01 15852 M 3:00-5:30(05) (T. Harris)

HMAN 1974S. The Costs of Climate Change.
This seminar examines debates over the costs - economic, environmental, and social - of climate change. We will explore how economists attempt to solve seemingly impossible problems of valuation like: how much should we value the wellbeing of current versus future generations? How much value does the ecosystem as a whole provide? We will then survey how these numbers (sometimes) enter into environmental regulatory debates. Finally, we will study how movements fighting for environmental justice adopt - or reject - the language of economics to make claims about the morality and economics of fossil fuel producers.
Fall HMAN1974S S01 24516 T 10:00-12:30 (D. Hirschman)

HMAN 1974T. Anthropology of Infrastructure: Comparative Ethnographic Perspectives.
Basic infrastructure — e.g., electricity grids, water supply systems, roads, railroads, and the Internet — is commonly seen as a foundational requirement for and visible manifestation of modern human life. Yet inequalities in infrastructure are both causes and consequences of the profound disparities that characterize the contemporary world. This course aims at deciphering the complex interaction between infrastructure, society, politics, and human experience. Taking a comparative ethnographic approach, students will ask whether technology has produced a better world, and for whom. From economics and governance to ethics and sociality, students will explore humans’ relationship to infrastructure.
Spr HMAN1974T S01 24657 M 10:00-12:30 (D. Smith)

HMAN 1974U. The Cultures of Roman Imperialism.
“The Cultures of Roman Imperialism” explores the cultural feedback loops between capital and provinces in the ancient Roman world, studying the literature (and some material culture) not only of expansionist Rome, but of the populations subject to Rome (including Greek, Egyptian, and Judaic).
How did Rome appropriate local cultural forms to legitimize its own power? How did local cultures push back with their own appropriations? We will find new ways to study an ancient empire that has subsequently been a model not only for governance, whether enlightened or oppressive, but also for dialogue and interchange, however fraught.
Fall HMAN1974U S01 15815 Th 4:00-6:30(04) (J. Reed)

HMAN 1974V. God of the Greek Philosophers.
This seminar will focus on the views of Plato and Aristotle on god’s thought and human thought. Plato treats god as a craftsman who looks to unchanged forms and attempts to replicate them in recalcitrant materials. By contrast, Aristotle regards the cosmos as eternal. His god maintains the world as the relatively stable place it is and does so as an object of desire and thought. God’s own activity — thinking of thinking — is extremely simple, whereas ours is necessarily more complex and involves recognizing our place and contribution to the order of things.
Spr HMAN1974V S01 24530 W 3:00-5:30(10) (M. Gill)


HMAN 2400Q. War and the Politics of Cultural Memory (ENGL 2901D).
Interested students must register for ENGL 2901D.
Spr HMAN2400Q S01 25530 Arranged ‘To Be Arranged’

HMAN 2400Y. Suspicion and Its Others (ENGL 2901N and RELS 2110C).
Interested students must register for ENGL 2901N or RELS 2110C.
Fall HMAN2400Y S01 16973 Arranged ‘To Be Arranged’
HMAN 2401. Memory/Matter/Time: Literature and the Changing Earth (ENGL 2761R).
Interested students must register for ENGL 2761R.
Fall HMAN2401 S01 17011 Arranged "To Be Arranged"

HMAN 2401A. Bakhtin and the Political Present: Literature, Anthropology, Dialogue (ENGL 2901M).
Interested students must register for ENGL 2901M.
Fall HMAN2401S01 17010 Arranged "To Be Arranged"

This collaborative seminar proposes an interdisciplinary and inter-cultural inquiry into breath as the shared figment of philosophical, spiritual, therapeutic, athletic, musical, and environmental practices, among others. How does breath travel across disparate traditions, bodies, and technologies? Is it vital or metaphysical? Is it restricted to particular genres? Does it have a history? Topics include punctuation and phrasing; climate change and the crisis of oxygen; circular breathing and "breathy" vocalization in musical traditions; the notion of "ruh" in Sufism, pneumonia in ancient Greek thought, "qi" in ancient Chinese thought, and "breath" as a synonym for "self" in ancient Indian philosophy.
Fall COLT0610D S01 16162 TTh 10:30-11:50(13) (A. Anderson)

COLT 0610D. Rites of Passage.
Examines a seemingly universal theme-coming-of-age-by focusing on texts from disparate periods and cultures. Proposes that notions of "growing up" are profoundly inflected by issues of class, gender and race, and that the literary representation of these matters changes drastically over time. Texts from the Middle Ages to the present; authors drawn from Chrétien de Troyes, Quevedo, Prévost, Balzac, Brontë, Twain, Faulkner, Vesaas, Rhys, Satrapi and Foer. Enrollment limited to 19 first year students.
Fall COLT0610D S01 16162 TTh 10:30-11:50(13) (A. Weinstein)

COLT 0610E. Crisis and Identity in Mexico, 1519-1968.
Examines four moments of crisis/critical moments for the forging of Mexican identity: the "Conquest" as viewed from both sides; the hegemonic 17th century; the Mexican Revolution as represented by diverse stakeholders; the "Mex-hippies" of the 1960s. We especially explore how key literary, historical, and essayistic writings have dealt with Mexico's past and present, with trauma and transformation. Readings include works by Carlos Fuentes, Sor Juana Inés de la Cruz, Octavio Paz, Juan Rulfo, and the indigenous Nican Mopohua on the Virgin of Guadalupe. All in English. No prerequisites.
Fall COLT0610E S01 25479 TTh 2:30-3:50(11) (S. Merrim)

Examines the narrative of detection, beginning with the great dramatic whoodunt (and mystery of identity) Oedipus Rex. Literary texts which follow a trail of knowledge, whether to establish a fact (who killed Laius?) or reveal an identity (who is Cephas?) follow in Sophocles' footsteps. We read Sophocles' intellectual children. Readings include: Hamlet, The Murders in the Rue Morgue, The Woman in White, and other classic novels and plays. We also analyse seminal films of the genre, including Laura and Vertigo. Will include the twentieth-century detective story, with particular attention to women writers and the genre of the female private eye.
Spr COLT0610L S01 25481 MWF 11:00-11:50(04) (M. Leroi)

COLT 0710L. New Worlds: Reading Spaces and Places in Colonial Latin America.
An interdisciplinary journey-combining history, literature, art, film, architecture, cartography-through representations of the many worlds that comprised the colonial Hispanic New World. We traverse the paradigmatic Antilles, the U.S. Southwest, Tenochtitlan/Mexico City, Lima, Potosi. We read European, indigenous, and Creole writers, including: Columbus, Las Casas, Bernal Diaz, Aztec poets, Guaman Poma, Sor Juana. In English. Excellent preparation for study abroad in Latin America. Enrollment limited to 19 first year students.
Fall COLT0710L S01 15997 M 3:00-5:30(05) (S. Merrim)

COLT 0810E. Confession, Autobiography, Testimony.
Does writing a life give it coherence and veracity, or create a fiction? What is the relationship between first-person narrative and truth, and between authorship and authority? How does the first-person text -- a religious confession, a personal journal, a political denunciation, a religious confession, a personal journal, a political denunciation, a collective memoir -- affect the telling? Must the reader of such an account be "you" to the teller's "I", and how does the intimacy of this relationship shape the experience of reading? In this course, we test the limits of self-narration against ethical and physical limits, reading first-person narratives that purport to be non-fictional. We will read accounts of different experiences -- social and sexual transgression, suffering and perpetrating violence, slavery -- and explore both the possibilities and duplicities of writing as "I".
Spr COLT0810E S01 25430 MWRF 10:00-10:50(03) (E. Whitfield)

COLT 0810O. Civilization and its Discontents.
Investigates the age-old tension between order and chaos as a central dynamic in the making and interpretation of literature. Texts will be drawn from drama, fiction and poetry from Antiquity to the present. Authors include Sophocles, Shakespeare, Racine, Beckett, Prévost, Bronte, Faulkner, Morrison, Blake, Whitman, Dickinson, and Rich.
Spr COLT0810OC S01 25439 TTh 1:00-2:20(08) (A. Weinstein)

For up-to-date course information please visit Courses@Brown.edu (https://cabrown.edu).
COLT 0812P. Banned Books of Middle East.
From Danish cartoons and fatwas to student protests and the stabling of a Nobel laureate, in this course we will study several literary scandals that have rocked the Middle East since the mid-twentieth century. Our focus will be not only on the content and form of the texts themselves, but also on the historical, political, social, and cultural circumstances in which literature comes to have meaning for particular social and religious communities. Texts by Naguib Mahfouz, Sonallah Ibrahim, Salman Rushdie, Ahmed Naji, Mohammed Joukh, Magdy al-Shafee, Susan Abulhawa.

Fall COLT0812P S01 16287 TTh 9:00-10:20(02) (E. Drumsta)

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.

Fall COLT1210 S01 16293 MWF 2:00-2:50(07) (S. Bernstein)

COLT 1409S. Classical Tragedy.
This course will read the great Greek tragedies of Aeschylus, Sophocles, and Euripides, and some Senecan tragedy. We will then read Renaissance and later tragedies that use the classical world as a setting, such as Antony and Cleopatra, Julius Caesar, and tragedies that rewrite classical themes, including O'Neill's Mourning Becomes Electra.

Fall COLT1409S S01 15995 MWF 11:00-11:50(16) (M. Ierulli)

In East Asian Buddhist culture, the mirror is a symbol of the mind in both its intellectual and emotional aspects. These masterworks detail the lives and loves of Prince Genji, cynosure of the medieval Japanese court, and Jia Baoyu, the last hope of an influential Chinese clan during the reign of Manchus. We examine both works as well as the sources of Genji and literary aesthetics of the Tang dynasty.

Fall COLT1420BS S01 16164 TTh 2:30-3:50(12) (D. Levy)

COLT 1420T. The Fiction of Relationship.
Explores the manifold ways in which narrative literature sheds light on the relationships that we have in life, both knowingly and unknowingly. The novel form, with its possibilities of multiple voices and perspectives, captures the interplay between self and other that marks all lives. Authors include Lacslo, Melville, Brontë, Kafka, Woolf, Faulkner, Borges, Burroughs, Vesaas, Morrison, and Coetzee.

Fall COLT1420T S01 16163 TTh 1:00-2:20(08) (A. Weinstein)

COLT 1421V. Modernisms North and South: James Joyce and Roberto Bolano.
James Joyce's Ulysses (1922) and Roberto Bolano's The Savage Detectives (1998) are weighty, influential, often intimidating works that bookend literary production in the twentieth century. Both are also moving narratives about humans with different sorts of artistic, emotional, and bodily ambitions, grappling with new forms of subjective and collective life in modernity, trying to work out their own place within social, political and artistic systems. Join Stephen Dedalus, Leopold and Molly Bloom, Ulises Lima and a cast of minor characters as they make their way through the hearts, minds, memories, and nervous systems of a range of modern metropoles.

Fall COLT1421VS S01 16160 MWF 12:00-12:50(15) (M. Clayton)

COLT 1430H. Poetry, Art, and Beauty.
What does it mean to be beautiful in classical and European literature and the arts? How do poems and works of visual art embody beauty? How is the idea of beauty defined by thinkers from Plato to Benjamin and Danto? Works include Sappho, Plato, Aristotle, Catullus, Horace, Petrarach, Kant, Wordsworth, Baudelaire, Rilke, Benjamin, Stevens. Works of art considered range from the Lascaux caves through renaissance classical painters like Giotto and Raphael to contemporary installations.

Spr COLT1430H S01 25657 MWF 2:00-2:50(07) (S. Foley)

COLT 1431B. Modern Arabic Poetry.
An advanced course with readings in modernist Arabic poetry, beginning with the so-called neo-classical poets and proceeding through Romanticism and Modernism, from Egypt to Lebanon, Palestine, Iraq, and beyond. We will examine such recurring themes as love, loss, and longing; war, exile, and homeland; cultural heritage (turath) and creative innovation (ibda'); gender and genre. All readings in Arabic; at least three years Arabic language study (or equivalent) required for enrollment.

Spr COLT1431BS S01 25429 MWF 3:00-5:30(15) (E. Drumsta)

COLT 1710C. Literary Translation Workshop.
The primary focus of this course is the practice of literary translation as an art. Using the workshop format, each student will complete a project by the end of the semester. Examples and theoretical texts will illuminate the historical, ethical, cultural, political, and aesthetic values that underlie every translation, keeping an eye towards opening up the field beyond inherited practices to consider the contemporary implications of our choices, intentions, and purposes in translation. Open to all levels. Heritage speakers are welcome, collaboration is permitted, and an open-minded approach to this developing and fascinating practice is strongly recommended.

Fall COLT1710CS C01 16266 Th 4:00-6:30(04) (E. Drumsta)

COLT 1812V. War, Anti-War, Postwar: Culture and Contestation in the Americas.
This course addresses the relationship among language, war and the arts from the mid-twentieth century on. Even as armies engage in combat around the globe, the term "war" legitimates a much broader spectrum of situations, lending them the structure of organized hostility and the moral opposition of right to wrong. From the "Cold War" to the "War on Terror", to Argentina's "Dirty War" and Cuba's "War on Imperialism", literature, cinema, visual arts and community-based projects have responded to real and rhetorical declarations of "war." Drawing from U.S. and Latin American contexts, we will explore a range of responses and challenges.

Spr COLT1812VS S01 25431 MWF 12:00-12:50(05) (E. Whitfield)

COLT 1813Q. Literature and Judgement.
There exists a close but complex relationship between the acts of making literature and making judgments. This course will explore some of these relationships and ask, for instance: how does judgment weigh upon the literary act? how do literary considerations bear on our making judgments? what criteria are called forth in both of these moments? Texts treated will be literary, critical-analytical, legal, and cinematic, and include such authors as Arendt, Benjamin, Derrida, Freud, Henry James, Kafka, Kant, Primo Levi, Nietzsche, Tolstoy and Venga.

Spr COLT1813QS S01 25500 Th 4:00-6:30(17) (S. Stewart-Steinberg)

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, motifs, 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 capitvate our imaginations.

Fall COLT1814S S01 16284 Th 4:00-6:30(09) (V. Calotychos)

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 2210. 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).
Fall COLT2210 S01 16292 MWF 2:00-2:50(07) (S. Bernstein)

COLT 2450. Exchange Scholar Program.
Fall COLT2450 S01 15462 Arranged "To Be Arranged"
Spr COLT2450 S01 24267 Arranged "To Be Arranged"

COLT 2820L. Moderns and Primitives.
Major writers, artists, and theorists of European modernism put a new emphasis on the status of primitive society and archaic pre-history. We will consider the works of Durkheim, Eliot, Joyce, Picasso, and others with reference to the anthropology and ethnography of their period, and to subsequent post-colonial critique and controversy.
Fall COLT2820L S01 16161 W 3:00-5:30(17) (K. Haynes)

COLT 2822D. Literature and Politics in the Age of Revolution.
Explores the major ideas and practices that radically transformed culture and society in the early-modern period in Europe and in the Atlantic. We will explore the challenges to political, cultural and religious traditions by analyzing the major debates over the questions of equality, freedom, progress, religious toleration, and happiness. Special attention will be paid to new definitions of citizenship and political rights, the role of women in the public sphere, and the critique of slavery. We will conclude by devoting particular attention to debates surrounding the French and Haitian Revolutions. Texts will include novels, plays, philosophical essays and political pamphlets.
Spr COLT2822D S01 25792 W 12:00-2:30 (O. Mostefai)

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.
Fall COLT2990 S01 15463 Arranged "To Be Arranged"
Spr COLT2990 S01 24268 Arranged "To Be Arranged"

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 HTML, Photoshop, Excel and Python assignments. CSCI 0020 is an introduction to a wide range of CS topics that have broad relevance in our society. No prerequisites.
Fall CSCI0020 S01 16575 TH 9:00-10:20(02) (D. Stanford)

CSCI 0081. 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 16576 Arranged (T. Doeppner)
Spr CSCI0081 S01 25078 Arranged (T. Doeppner)

CSCI 0082. 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 0082 or its full-credit version (CSCI 0081) is taken is up to the professor of the course being TA'd. Instructor permission required.
Fall CSCI0082 S01 16577 Arranged (T. Doeppner)
Spr CSCI0082 S01 25079 Arranged (T. Doeppner)

CSCI 0100. Data Fluency for All.
This course is intended to introduce Brown students to computational techniques that data scientists use to tell stories. Data fluency encompasses both data literacy, the basics of statistics and machine learning, and data communication, which relies heavily on principles of design. Students will gain hands on experience using statistical tools such as “R” to analyze real world data sets, and “ggplot” to visualize them. Sample application domains include just about every field, since the only requirement is data, which there almost always are (e.g., the complete works of Shakespeare is a sample data set).
Fall CSCI0100 S01 16578 MWF 11:00-11:50(16) (A. Greenwald)

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 and use of digital information. Designed for both concentrators and non-concentrators, this is the first in an eventual 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 16579 MWF 10:00-10:50(14) (K. Fisler)
Spr CSCI0111 S01 25075 MWF 9:00-9:50(02) (D. Woos)

CSCI 0150. Introduction to Object-Oriented Programming and Computer Science.
Emphasizes object-oriented design and programming in Java, an effective modern technique for producing modular, reusable, internet-aware programs. Also introduces interactive computer graphics, user interface design and some fundamental data structures and algorithms. A sequence of successively more complex graphics programs, including Tetris, and culminating in a significant final project, helps provide a serious introduction to the field intended for both potential concentrators and those who may take only a single course. No prerequisites, no prior knowledge of programming required.
Fall CSCI0150 S01 16581 TH 2:30-3:50(12) (A. van Dam)

CSCI 0160. Introduction to Algorithms and Data Structures.
Introduces fundamental techniques for problem solving by computer that are relevant to most areas of computer science, both theoretical and applied. Algorithms and data structures for sorting, searching, graph problems, and geometric problems are covered. Programming assignments conform with the object-oriented methodology introduced in CSCI 0150. Prerequisite: CSCI 0150 or written permission.
Spr CSCI0160 S01 25076 TH 1:00-2:20(08) (D. Woos)

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

Although students are taught to use programming languages as tools, the goal of CSCI0170/0180 is not merely to teach programming. On the contrary, the goal is to convey to students that computer science is much more than programming! All of the following fundamental computer science techniques are integrated into the course material: algorithms, data structures, analysis, problem solving, abstract reasoning, and collaboration. Concrete examples are drawn from different subareas of computer science: in 0170, from arbitrary-precision arithmetic, natural language processing, databases, and strategic games; in 0180, from discrete-event simulation, data compression, and client/server architectures.

Fall CSCI0170 S01 16582 MWF 10:00-10:50(14) (J. Hughes)
CSCI 0180. Computer Science: An Integrated Introduction.
A continuation of CSCI 0170. Students learn to program in Java while continuing to develop their algorithmic and analytic skills. Emphasis is placed on object-oriented design, imperative programming, and the implementation and use of data structures. Examples are drawn from such areas as databases, strategy games, web programming, graphical user interfaces, route finding, and data compression. Lab work done with the assistance of TAs. Prerequisite: CSCI 0170 or CSCI 0190.
Spr CSCI0180 S01 25077 MWF 11:00-11:50(4) (K. Fisler)
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 0150-0160 and CSCI 0170-0180). Students wishing to take CSCI 0190 must pass a sequence of online placement assignments. 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 16583 MWF 9:00-9:50(01) (S. Krishnamurthi)
CSCI 0220. Introduction to Discrete Structures and Probability.
Seeks to place on solid foundations the most common structures of computer science, to illustrate proof techniques, to provide the background for an introductory course in computational theory, and to introduce basic concepts of probability theory. Introduces Boolean algebra, logic, set theory, elements of algebraic structures, graph theory, combinatorics, and probability. No prerequisites.
Spr CSCI0220 S01 25080 MWF 1:00-1:50(06) (M. Littman)
CSCI 0320. Introduction to Software Engineering.
Techniques for designing, building, and maintaining large, scalable, and reusable systems. We will cover advanced programming techniques using Java and Javascript. Course assignments will familiarize students with software testing, relational databases, concurrency techniques such as threads, and software engineering tools like git, profilers, and debuggers. A major component of the course will be a group software project of your own design.
Prerequisite: CSCI 0160, CSCI 0180 or CSCI 0190; CSCI 0220 is recommended.
Spr CSCI0320 S01 25081 TTh 1:00-2:20(08) (T. Nelson)
CSCI 0330. 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 0150, 0180, or 0190.
Fall CSCI0330 S01 16584 MWF 2:00-2:50(07) (T. Doepner)
Fundamental concepts in 2D and 3D computer graphics, e.g., 2D raster graphics techniques, simple image processing, and user interface design. 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, or CSCI 0190. 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 16589 MW 3:00-4:20(17) (J. Hughes)
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 16783 Arranged (J. Hughes)
CSCI 1250. Introduction to Computer Animation.
Introduction to 3D computer animation production including story writing, production planning, modeling, shading, animation, lighting, and compositing. The first part of the course leads students through progressive exercises that build on each other to learn basic skills in 2D and 3D animation. At each step, student work is evaluated for expressiveness, technical correctness and aesthetic qualities. Students then work in groups creating a polished short animation. Emphasis on in-class critique of ongoing work which is essential to the cycle of visually evaluating work in progress, determining improvements, and implementing them for further evaluation.
Please see course website for application procedure.
Fall CSCI1250 S01 16588 MW 12:00-1:50
CSCI 1260. Compilers and Program Analysis.
Lexical analysis, syntactic analysis, semantic analysis, code generation, code optimization, translator writing systems. Prerequisites: CSCI 0220 and 0320; 0510 is recommended.
Fall CSCI1260 S01 16794 TTh 10:30-11:50(11) (D. Woos)
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 0330 or CSCI 0320 is strongly recommended.
Fall CSCI1270 S01 16586 MW 3:00-4:20(17) (S. Zdonik)
CSCI 1280. Intermediate 3D Computer Animation.
Continues work begun in CSCI 1250 with deeper exploration of technical and artistic aspects of 3D computer animation including more sophisticated shading and lighting methods and character modeling, rigging, animation, and dynamics. After a series of individual exercises, students pursue an independent topic and then, working alone or in pairs, create a polished demonstration. Emphasis is on in-class critique of ongoing work. Prerequisite: CSCI 1250. Students may contact the instructor in December for permission.
Spr CSCI1280 S01 25082 MW 12:00-1:50 (B. Meier)

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Covers fundamental concepts, principles, and abstractions that underlie the design and engineering of computer systems, with reference to applications of these concepts in industry. Topics include machine organization, systems programming and performance, key concepts of operating systems, isolation, security, virtualization, concurrent programming, and the basics of distributed systems. Combined lectures, case studies, labs, and several hands-on projects involving programming exercises. Prerequisites: CSCI 0160, 0180, or 0190; or CSCI 0150, 0170 if concurrently taking CSCI 0160 or 0180; or permission of the instructor.

Fall CSCI1310 S01 25373 TTh 2:30-3:50(11) (M. Schwarzkopf)

This course covers all aspects of web application development, including initial concept, user-centric design, development methodologies, front and back end development, databases, security, testing, load testing, accessibility, and deployment. There will be a substantial team project. The course is designed for students with a programming background (equiv CSCI 0320/CSCI 0330) who want to learn how to build web applications, and for students with a background in web design, including HTML and Javascript, who are interested in learning how to extend design techniques to incorporate the technologies needed in modern web applications. Project teams will consist of students with both backgrounds.

Spr CSCI1320 S01 25151 MWF 10:00-10:50(03) (S. Reiss)

CSCI 1380. Distributed Computer Systems.
Explores the fundamental principles and practice underlying networked information systems, first we cover basic distributed computing mechanisms (e.g., naming, replication, security, etc.) and enabling middleware technologies. We then discuss how these mechanisms and technologies fit together to realize distributed databases and file systems, web-based and mobile information systems. Prerequisite: CSCI 0320 or CSCI 0330.

Spr CSCI1380 S01 25372 Arranged (T. Benson)

CSCI 1410. Artificial Intelligence.
Practical approaches to designing intelligent systems. Topics include search and optimization, uncertainty, learning, and decision making. Application areas include natural language processing, machine vision, machine learning, and robotics. Prerequisites: CSCI 0160, CSCI 0180 or CSCI 0190; and one of CSCI0220 or CSCI1450 or APMA1650 or APMA1655.

Fall CSCI1410 S01 17200 TTh 10:30-11:50(13) (A. Greenwald)
Spr CSCI1410 S01 25152 TTh 1:00-2:20(08) (G. Konidaris)

How can artificial systems learn from examples and discover information buried in data? We explore the theory and practice of statistical machine learning, focusing on computational methods for supervised and unsupervised learning. Specific topics include empirical risk minimization, probably approximately correct learning, kernel methods, neural networks, maximum likelihood estimation, the expectation maximization algorithm, and principal component analysis. This course also aims to expose students to relevant ethical and societal considerations related to machine learning that may arise in practice.

Please contact the instructor for information about the waitlist.

Spr CSCI1420 S01 25153 TTh 2:30-3:50(11) (S. Bach)

CSCI 1430. Computer Vision.
How can we program computers to understand the visual world? This course treats vision as inference from noisy and uncertain data and emphasizes probabilistic and statistical approaches. Topics may include perception of 3D scene structure from stereo, motion, and shading; segmentation and grouping; texture analysis; learning, object recognition; and machine learning. Strongly recommended: basic linear algebra, calculus, and probability.

Spr CSCI1430 S01 25375 Arranged (J. Tompkin)

CSCI 1450. Probability for Computing and Data Analysis.
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 CSCI1450 and APMA1650/APMA1655.

Fall CSCI1450 S01 16587 TTh 2:30-3:50(12) (E. Upfal)

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. The prerequisite of CS 1470 (or the equivalent background) is very important.

Spr CSCI1460 S01 25377 MWF 2:00-2:50(07) (E. Charniak)

Deep learning is the name for a particular version of neural networks—a version that emphasizes multiple layers of networks. Deep learning, plus the specialized techniques that it has inspired (e.g. convolutional features and word embeddings) have lead to rapid improvements in many applications such as computer vision, machine translation, and computer Go. This course intends to give students a practical understanding of deep learning as applied in these and other areas. It also teaches the Tensorflow programming language for the expression of deep learning algorithms. (The primary API for Tensorflow is from Python.) This course is using its own waitlist. If the course is full, you can sign up for the waitlist using this form: https://docs.google.com/forms/d/e/1FapQLSfseOCnsiVMThoLYH2HwcNc_FIcHuK3C7W_PwG7Cu9aWSw/viewform?usp=sf_link
You can check your position on the waitlist by submitting a request here: https://docs.google.com/forms/d/e/1FapQLSfseOCnsiVMThoLYH2HwcNc_FIcHuK3C7W_PwG7Cu9aWSw/viewform?usp=sf_link
Note that you must be logged in to your Brown Google account in order to view these links.

IMPORTANT: "The course staff will not reply to emails about the waitlist."
The instructions above tell you all you need to know about getting on it and checking where you are.

Fall CSCI1470 S01 16590 MWF 12:00-12:50(15) (D. Ritchie)

Randomization and probabilistic techniques play an important role in modern computer science, with applications ranging from combinatorial optimization and machine learning to communications networks and secure protocols. This course introduces the most fundamental probabilistic techniques used in computer science applications, in particular in randomized algorithms, probabilistic analysis of algorithms and machine learning.

Prerequisite: Basic background in probability theory course such as CSCI 1450.

Spr CSCI1550 S01 25192 TTh 2:30-3:50(11) (E. Upfal)

CSCI 1620 is a half-credit laboratory course intended to be taken concurrently with CSCI 1660 and provides students with a deeper understanding of the material by doing additional assignments, which include extensions of the 1660's assignments. Instructor permission required.

Spr CSCI1620 S01 25194 Arranged (R. Tamassia)
CSCI 1650. Software Security and Exploitation.  
Covers software exploitation techniques and state-of-the-art mechanisms for protecting (vulnerable) software. It begins with a summary of prevalent software defects, typically found in applications written in 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 newest goodies (just-in-time code reuse). For the most part, it focuses on defenses against certain vulnerability classes and exploitation methods. Students will learn about the boundaries and the effectiveness of virtualization, stack and heap protections, and address space randomization, and analyze advanced exploitation techniques and countermeasures.  
Fall CSCI1650 S01 16585 MW 3:00-4:20(17) (V. Kemerlis)

This course teaches principles of computer security from an applied viewpoint and provides hands-on experience on security threats and countermeasures. Topics include code execution vulnerabilities (buffer overflow, sandboxing, mobile code), malware (trojans, viruses, and worms), access control (users, roles, policies), cryptosystems (hashing, signatures, certificates), network security (firewalls, TLS, intrusion detection, VPN), and human and social issues. Prerequisites: one of CSCI 0160 or CSCI 0180 or CSCI 0190; and CSCI 0330.  
Spr CSCI1660 S01 25193 TTh 1:00-2:20(08) (R. Tamassia)

Covers not just the principles of operating systems but the intricacies of how they work. Topics include multithreaded programming, managing threads and interrupts, managing storage, processor scheduling, operating-system structure, virtualization, security, and the design of file systems (both local and distributed). Extensive examples are taken from actual systems, including Linux and Windows. Students are expected to complete both problem sets and programming assignments (in C). Prerequisite: CSCI 0330.  
Spr CSCI1670 S01 25195 MWF 2:00-2:50(07) (T. Doepnner)

CSCI 1690. Operating Systems Laboratory.  
Half-credit course intended to be taken with CSCI 1670. Students individually write a simple operating system in C. Serves to reinforce the concepts learned in 1670 and provides valuable experience in systems programming. Corequisite: CSCI 1670.  
Spr CSCI1690 S01 25196 Arranged (T. Doepnner)

CSCI 1730. Design and Implementation of Programming Languages.  
Explores the principles of modern programming languages by implementation. Examines linguistic features, especially control operators such as first-class functions, exceptions, and continuations. Studies data and their types, including polymorphism, type inference, and type soundness. Examines compiler and run-time system topics: continuation-passing style and garbage collection. Prerequisite: CSCI 0160, CSCI 0180 or CSCI 0190. Preferred: CSCI 0220, either CSCI 0320 or CSCI 0330, and CSCI 0510.  
Fall CSCI1730 S01 16591 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 16592 TTh 1:00-2:20(08) (M. Herlihy)

CSCI 1800. Cybersecurity and International Relations.  
The global Internet shortens distances, makes businesses more efficient and facilitates greater social interaction. At the same time, it exposes vital national resources to exploitation and makes it easier for the international criminal element to prey on innocent Internet users. Cybersecurity is concerned with making the Internet a more secure and trustworthy environment. In this course we study this topic from the technological and policy points of view. The goal is to facilitate communication across the divide that normally characterizes the technological and policy communities.  
Spr CSCI1800 S01 25197 MW 3:00-4:20(10) (J. Savage)

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 16846 TTh 9:00-10:20(02) (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. Prerequisites: CSCI 0160, CSCI 0180 or CSCI 0190, or consent of instructor.  
Fall CSCI1810 S01 16593 TTh 2:30-3:50(12) (S. Istrail)

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 16594 M 3:00-5:30(05) (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 games 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. Instructor override is required as a technicality; please apply! This course has also been offered as DISP CSCI1971.  
Fall CSCI1950N S01 16784 Arranged (J. Tompkin)

CSCI 1950U. 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. Prerequisites: CSCI 1230 and one of CSCI 0320 or CSCI 0510. Enrollment limited to 25.  
Spr CSCI1950U S01 25250 Arranged (D. Ritchie)

The course will focus on proving properties about systems and programs. We will study the distinction between programs and specifications, and check for whether the former obey the latter. We will work with tools that have extensive automation such as model constructors, model checkers, and proof assistants. Problems and projects will apply to real-world systems. Prerequisite: CSCI 0160, CSCI 0180, or CSCI 0190. Preferred but not required: CSCI 0220 and CSCI 0510, or instructor's permission.  
Spr CSCI1950Y S01 25199 MWF 10:00-10:50(03) (T. Nelson)

For up-to-date course information please visit Courses@Brown.edu (https://cabs.brown.edu).
CSCI 1951A. Data Science.
Mastering big data requires skills spanning a variety of disciplines: distributed systems over statistics, machine learning, and a deep understanding of a complex ecosystem of tools and platforms. Data Science refers to the intersection of these skills and how to transform data into actionable knowledge. This course provides an overview of techniques and tools involved and how they work together: SQL and NoSQL solutions for massive data management, basic algorithms for data mining and machine learning, information retrieval techniques, and visualization methods.
Prerequisites: CSCI 0160, CSCI 0180, or CSCI 0190. One of CSCI 0330 or CSCI 0320 strongly recommended.
Spr CSCI1951A S01 25404 TTh 9:00-10:20(01) (E. Pavlick)

CSCI 1951C. Designing Humanity Centered Robots.
Offered by Brown’s Computer Science department under the auspices of the Humanity Centered Robotics Initiative. It is focused on the iterative design process and how it can be used to develop robots for solving tasks that help people. It will expose students to a suite of fabrication and prototyping technologies sufficient for creating a functioning robotic system.
https://www.youtube.com/watch?v=DBvis_j_b78
The course has two tracks, one intended for CS concentrators, and one intended for non-concentrators with previous design experience. The non-concentrator track cannot be used toward fulfilling a Computer Science concentration requirement.
Fall CSCI1951C S01 16595 MW 9:00-11:50 (I. Gonsher)

CSCI 1951I. CS for Social Change.
Working in a studio environment to iteratively design, build, and test technical projects in partnership with different social change organizations, students will be placed in small teams to collaboratively work on projects that will range from developing a chatbot to aid community engagement to conducting geospatial data analytics. We will also reflect on our positionality and ethics in engaging in social impact work and what it practically means to leverage technology to create social change on an everyday basis. Enrollment limited to 12. Entry to this course is through application only: https://docs.google.com/forms/d/1wmCbmB6dpOlOFCjHE50IHgxAO08gCE38m1dD71JUw/edit
Fall CSCI1951I S01 26200 MW 3:00-4:20(10) (U. Cetintemel)

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 16764 TTh 10:30-11:50(13) (S. Tellex)

CSCI 1951T. Surveying VR Data Visualization Software for Research.
In a collaborative group effort, this course will search out, install, test, and critically evaluate VR software that supports data visualization for researchers. We will target several specific types of data, including volumetric data, and remote sensing data. We will investigate the capabilities of software for head-mounted displays (HMDs), big-metal displays like caves and the yurt, and, as a baseline, desktop displays. Software evaluation will include web research, hands-on case studies, and surveying. Results will be documented in a courses wiki.
Spr CSCI1951T S01 25202 TTh 10:30-11:50(09) (D. Laidlaw)

CSCI 1951U. Software Engineering of Large Systems.
This course is teaches the software engineering techniques used to create moderate to large sized programs. This includes design methodologies that scale and are geared toward larger, long-lifetime systems with multiple designers. It includes tools and techniques that assist the programmer and help manage programmer teams.
Fall CSCI1951U S01 16886 TTh 9:00-10:20(02) (S. Reiss)

CSCI 1951V. Hypertext: The Web Was Not the Beginning and the Web is Not the End.
A “hypertext” system is for creating, linking, exploring, annotating, and searching for information. Designed 30-years ago, the World Wide Web is a hypertext system gone global, but the Web represents only a small part of past visions. Students will explore hypertext's history through hands-on use of systems from the 1970s onward, identifying features still not in common use. They will study the architecture, design, and features of hypertext systems, examining topics such as permanence, collaboration, searching, content design patterns, and societal impact. A final implementation project will explore what hypertext systems might look like in the 2020s. Prerequisites: an introductory CS sequence or equivalent experience.
Fall CSCI1951V S01 16873 W 3:00-5:30(17) (A. van Dam)

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

2D Game Engines covers core techniques used in the development 2D game engines. 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.

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.


Important current topics in computer graphics. Course includes reading and discussing current research papers, multiple assignments and preliminary projects in which students implement recent papers, and a demanding final integrative project done in small groups. Prerequisite: Instructor's permission or CSCI 1230.
Spr CSCI2240 S01 25204 MWF 11:00-11:50(04) (D. Ritchie)

CSCI 2270. Topics in Database Management.
In-depth treatment of advanced issues in database management systems. Topics vary from year to year and may include distributed databases, mobile data management, data stream processing and web-based data management. Prerequisite: CSCI 1270.
Spr CSCI2270 S01 25379 M 3:00-5:30(13) (S. Zdonik)

CSCI 2370. Interdisciplinary Scientific Visualization.
How to do research on using computer graphics, visualization, and interaction applied to scientific problems. Working in small multidisciplinary groups, students identify scientific problems, propose solutions involving computational modeling and visualization, design and implement the solutions, apply them to the problems, and evaluate their success. Immersive CAVE applications will be a focus, but other interaction or visualization projects are possible. Prerequisites: all: programming experience; CS students: graphics experience; others: problem ideas. Instructor permission required.
Fall CSCI2370 S01 16596 TTh 10:30-11:50(13) (D. Laidlaw)

For up-to-date course information please visit Courses@Brown.edu (https://cabs.brown.edu).
CSCI 2440. Computation in Economics and Games.
This course examines topics in game theory and mechanism design from a computer scientist’s perspective. Through the lens of computation, the focus is the design and analysis of systems utilized by self-interested agents. Students will investigate how the potential for strategic agent behavior can/should influence system design, and the ramifications of conflicts of interest between system designers and participating agents. Emphasis on computational tractability is paramount, so that simple designs are often preferred to optimal. Students will learn to analyze competing designs using the tools of theoretical computer science, and empirical tools, such as empirical game-theoretic analysis. Application areas include computational advertising, wireless spectrum, and prediction markets.
Spr CSCI2440 S01 25155 W  3:00-5:30(10)  (A. Greenwald)

CSCI 2450. Exchange Scholar Program.
Deep learning is the name for a particular version of neural networks—a version that emphasizes multiple layers of networks. Deep learning, plus the specialized techniques that it has inspired (e.g. convolutional features and word embeddings) have lead to rapid improvements in many applications such as computer vision, machine translation, and computer Go. This course intends to give students a practical understanding of deep learning as applied in these and other areas. It also teaches the Tensorflow programming language for the expression of deep leaning algorithms. A final project will implement an advanced piece of work in one of these areas. Pre Requisites: A basic programming course; (CSCI 0150, 0170 or 0190) A linear algebra course: (CSCI 0530, MATH 0520 or 0540) A stats / probability course: (CSCI 0220, 1450, 0450, MATH 1610, APMA 1650 or 1655)
Fall CSCI2470 S01 16598 MWF 12:00-12:50(15)  (D. Ritchie)

Advanced topics in applications of probabilistic methods in design and analysis of algorithms, in particular to randomized algorithms and probabilistic analysis of algorithms. Topics include the Markov chains Monte Carlo method, martingales, entropy as a measure for information and randomness, and more. Prerequisite: CSCI 1450. Recommended but not required: CSCI 1570.
Spr CSCI2540 S01 25205 TTh 2:30-3:50(11)  (E. Upfal)

CSCI 2820. Advanced Algorithms in Computational Biology and Medical Bioinformatics.
Devoted to computational problems and methods in the emerging field of Medical Bioinformatics where genomics, computational biology and bioinformatics impact medical research. We will present challenging problems and solutions in three areas: Disease Associations, Protein Folding and Immunogenomics. This course is open to graduate students and advanced undergraduates with Computational or Life Science backgrounds. Prior background in Biology is not required.
Spr CSCI2820 S01 25206 TTh 2:30-3:50(11)  (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 15465 Arranged  "To Be Arranged"
Spr CSCI2890 S01 24269 Arranged  "To Be Arranged"

CSCI 2950K. Special Topics in Computational Linguistics.
Every year will cover a different topic in computational linguistics, from a statistical point of view, including parsing, machine translation, confluence, summarization, etc. Prerequisites: CSCI 1460 or permission of the instructor.
Fall CSCI2950K S01 16888 MWF 2:00-2:50(07)  (E. Charniak)

CSCI 2950V. Topics in Applied Cryptography.
This course surveys recent developments in applied cryptography. Research in this field is motivated by privacy and security issues that arise in practice from areas like computing, databases, surveillance and finance. Topics will vary each year. Pre Requisites: CSCI 1660 and CSCI 1510 recommended or instructor permission. This year's theme is cryptography for social good.
Fall CSCI2950V S01 16599 TTh 10:30-11:50(13)  (S. Kamara)

CSCI 2951E. Topics in Computer Systems Security.
This course explores advanced topics and highlights current research in computer security from a systems perspective. Topics include vulnerabilities and defenses for automotive, computing, medical, and industrial control devices, intrusion detection, botnets, secure network protocols, web spam, tracking of web users, JavaScript sandboxing, attacks and defenses for web applications, and security and privacy issues in cloud computing. Research papers and industry reports will be presented and discussed. Also, hands-on experiments and system demonstrations will be performed. CSCI 1660 or equivalent background is essential. Enrollment limited to 12. Instructor permission required.
Fall CSCI2951E S01 16600 T 2:30-5:00  (R. Tamassia)

CSCI 2951K. Topics in Collaborative Robotics.
Practical approaches to designing intelligent systems. Topics include search and optimization, uncertainty, learning, and decision making. Application areas include natural language processing, machine vision, machine learning, and robotics. Prerequisite: CSCI 1410, 1420, 1460, 1480, or 1950F; or instructor permission.
Spr CSCI2951K S01 25281 TTh 10:30-11:50(09)  (S. Tellex)

CSCI 2951O. Foundations of Prescriptive Analytics.
We are undoubtedly in the middle of an Analytics Revolution that enabled turning huge amounts data into insights, and insights into predictions about the future. At its final frontiers, Prescriptive Analytics is aimed at identifying the best possible action to take given the constraints and the objective. To that end, this course provides students with a comprehensive overview of the theory and practice of how to apply Prescriptive Analytics through optimization technology. A wide variety of state-of-the-art techniques are studied including: Boolean Satisfiability, Constraint Programming, Linear Programming, Integer Programming, Local Search Meta-Heuristics, and Large-Scale Optimization. Pre Requisites: One of CSCI 0320 or CSCI 0330 and recommended: one of CSCI 0530, CSCI 1570, MATH 0520 or MATH 0540.
Spr CSCI2951O S01 25381 F 3:00-5:30(15)  (S. Kadioglu)

This course investigates the state-of-the-art in software exploitation and defense. Specifically, the course is structured as a seminar where students present research papers to their peers. We will begin with a summary of prevalent software defects, typically found in applications written in memory unsafe languages, and proceed to surveying what we are up against: traditional and modern exploitation techniques, ranging from classical code injection and code reuse up to the newest goodies (JIT-ROP, Blind ROP). For the bulk part, we will focus on the latest advances in protection mechanisms, mitigation techniques, and tools against modern vulnerability classes and exploitation methods.
Spr CSCI2951U S01 25380 M 3:00-5:30(13)  (V. Kemerlis)

CSCI 2952C. Learning with Limited Labeled Data.
As machine learning is deployed more widely, researchers and practitioners keep running into a fundamental problem: how do we get enough labeled data? This seminar course will survey research on learning when only limited labeled data is available. Topics covered include weak supervision, semi-supervised learning, active learning, transfer learning, and few-shot learning. Students will lead discussions on classic and recent research papers, and work in teams on final research projects.
Previous experience in machine learning is required through CSCI 1420 or equivalent research experience.
Fall CSCI2952C S01 16920 TTh 1:00-2:20(08)  (S. Bach)
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 16919 TTh 1:00-2:20(08) (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 15466 Arranged 'To Be Arranged'
Spr CSCI2990 S01 24270 Arranged 'To Be Arranged'

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

Data Science

DATA 0200. Data Science Fluency.
As data science becomes more visible, are you becoming more curious about its unique amalgamation of computer programming, statistics, and visualizing or storytelling? Have you ever wondered how these areas fit together and what a data scientist does? This course offers all students regardless of background the opportunity for hands-on data science experience, following a data science process from an initial research question, through data analysis, to the storytelling of the data. Along the way, you will learn about the ethical considerations of working with data through ethics spotting, and become more aware of societal impacts of data science. Course does not count toward CS concentration requirements.
Fall DATA0200 S01 16731 TTh 9:00-10:20(02) (L. Clark)

An introduction to the mathematical methods of data science through a combination of computational exploration, visualization, and theory. Students will learn scientific computing basics, topics in numerical linear algebra, mathematical probability (probability spaces, expectation, conditioning, common distributions, law of large numbers and the central limit theorem), statistics (point estimation, confidence intervals, hypothesis testing, maximum likelihood estimation, density estimation, bootstrapping, and cross-validation), and machine learning (regression, classification, and dimensionality reduction, including neural networks, principal component analysis, and unsupervised learning).
Fall DATA1010 S01 17038 MWF 1:00-2:50 (S. Watson)

DATA 1030. Hands-on Data Science.
Develops all aspects of the data science pipeline: data acquisition and cleaning, handling missing data, data storage, 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 regression, ridge and lasso regression, logistic regression, support vector machines, decision trees, ensemble methods). Uses the Python data science ecosystem. Prerequisites: A course equivalent to CSCI 0050, CSCI 0150 or CSCI 0170 are strongly recommended.
Fall DATA1030 S01 16733 TTh 10:30-11:50(13) 'To Be Arranged'

A modern introduction to inferential methods for regression analysis and statistical learning, with an emphasis on application in practical settings in the context of learning relationships from observed data. Topics will include basics of linear regression, variable selection and dimension reduction, and approaches to nonlinear regression. Extensions to other data structures such as longitudinal data and the fundamentals of causal inference will also be introduced.
Spr DATA2020 S01 25676 TTh 10:30-11:50(09) (R. DeVito)

DATA 2040. Deep Learning and Special Topics in Data Science.
A hands-on introduction to neural networks, reinforcement learning, and related topics. Students will learn the theory of neural networks, including common optimization methods, activation and loss functions, regularization methods, and architectures. Topics include model interpretability, connections to other machine learning models, and computational considerations. Students will analyze a variety of real-world problems and data types, including image and natural language data.
Spr DATA2040 S01 25216 TTh 1:00-2:20(08) 'To Be Arranged'

DATA 2050. Data Science Practicum.
The capstone experience is a hands-on thesis project that entails an in-depth 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 16735 Arranged 'To Be Arranged'
Spr DATA2050 S01 25218 Arranged 'To Be Arranged'

DATA 2080. Data 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.
Spr DATA2080 S01 25219 Arranged (D. Hurley)

Early Cultures

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

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.

Earth, Environmental, and Planetary Sciences

EEPS 0010. Face of the Earth.
Study of Earth's surface (e.g., mountains, rivers, shorelines) and processes which have created and modify it (e.g., glaciation, floods, volcanism, plate tectonics, earthquakes). The goals are to increase appreciation and enjoyment of our natural surroundings and provide a better understanding of environmental problems, natural resources, land use, and geologic hazards. Four labs, plus a field trip. For nonscience concentrators (science concentrators should take EEPS 0220). Students MUST register for both components of this course (the lecture and one of the labs) during the SAME registration session. Enrollment limited to 100.
Spr EEPS0010 S01 25272 MWF 1:00-1:50(08) (S. Parman)
EEPS 0050. Mars, Moon, and the Earth.
Space exploration has revealed an astonishing array of surface features on the planets and their satellites. Why are atmospheres on the planets different from Earth’s atmosphere? Do other planets represent our past or future environment? Is there life on other planets? The planets and their histories are compared to gain insight and a new perspective on planet Earth.
Fall EEPS0050 S01 16812 MWF 2:00-2:50(07) (J. Mustard)

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.
Fall EEPS0070 S01 16824 MWF 2:00-2:50(07) (S. Clemens)

EEPS 0160I. Diamonds.
Examines both the science and human history of diamonds, and shows how they have interacted over the years. Investigates how and where diamonds are formed in nature and what they tell us about the Earth. At the same time, explores the role diamonds have played in our history and culture. Enrollment limited to 12 first year students.
Fall EEPS0160I S01 16810 TTh 2:30-3:50(12) (S. Parman)

EEPS 0220. Earth Processes.
Introduction to the physical and chemical processes that shape the Earth’s surface, govern the structure of its interior, cause natural hazards and affect the human environment. Topics include interior processes (plate tectonics, mountain building, volcanism, earthquakes, and flow of solid rocks) and environmental processes (climate, atmospheric and oceanic circulation, flow of rivers, glaciers, and groundwater). Four labs and two field trips arranged. Intended for science concentrators or those wishing in-depth treatment. CAP course. Enrollment limited to 100. After preregistration, instructor permission is required to register or get on wait-list. Please see or email instructor (Jan_Tullis@brown.edu).
Fall EEPS0220 S01 16816 MWF 11:00-11:50(16) (J. Tullis)

Introduction to the chemical and mineralogical nature of the Earth, Moon, and meteorites, and the role of chemical processes in their evolution. Topics include: composition of rock-forming minerals; origin of crustal and mantle rocks; stable and radiogenic isotopes; models of nucleosynthesis, planet formation and differentiation. Weekly laboratory and two field trips. Intended for science concentrators. Prerequisites: basic chemistry and EEPS 0010 or 0050 or 0220, or instructor permission.
Labs will meet Tuesdays from 7:00 pm to 9:00 pm.
Spr EEPS0230 S01 25271 TTh 1:00-2:20(08) (A. Saal)

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. The evolution of habitable range on Earth. Two field trips; five laboratories arranged. Prerequisite: EEPS 0220 or 0230, or instructor permission.
Spr EEPS0240 S01 25006 MWF 11:00-11:50(04) (T. Herbert)

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.
Fall EEPS0250 S01 16815 MWF 10:00-10:50(14) (C. Huber)

EEPS 0810. Planetary Geology.
This introductory level course will examine the evolution of our Solar System and the geology of planetary bodies, including Mercury, Venus, the Moon, Mars, asteroids, and the moons of Jupiter and Saturn. We will discuss the origin of the Solar System from a geological perspective and explore how scientists combine observations from extraterrestrial samples such as meteorites with data returned by satellites and rovers to develop and test hypotheses related to planetary evolution. Emphasis will be on comparing geologic processes on these bodies to well-understood processes on Earth, results from past, current, and upcoming planetary missions, and the future of human and robotic exploration of space.
Spr EEPS0810 S01 25278 MWF 10:00-10:50(03) (R. Milliken)

EEPS 0850. Weather and Climate.
Weather phenomena occur on short time scales, and form the basis for understanding climate, the study of changes over longer time scales. This course aims to provide an understanding of the processes that drive weather patterns, the general circulation of the atmosphere, and climate on Earth. Topics include the structure and composition of the atmosphere, sources of energy that drive atmospheric processes, weather forecasting, the hydrological cycle, forces that create severe weather, the influence of humans on the atmosphere, and factors that influence climate, climate variability and climate change. Recommended courses or equivalent: MATH 0090, MATH 0100, PHYS 0050.
Spr EEPS0850 S01 25303 TTh 10:30-11:50(09) (M. Hastings)

EEPS 1130. Ocean Biogeochemical Cycles.
A quantitative treatment of the cycling of biologically important elements in the world ocean. Special attention is paid to the carbon system in the ocean and the role that organisms, in conjunction with ocean circulation, play in regulating the carbon dioxide content of the oceanic atmosphere through exchange with the surface ocean. For science concentrators. Offered alternate years. Prerequisite: CHEM 0330 or equivalent, or instructor permission.
Fall EEPS1130 S01 16820 MWF 2:00-2:50(07) (T. Herbert)

EEPS 1150. Limnology: The Study of Lakes.
This course will provide an interdisciplinary overview of the physics, chemistry, biology, and geology of lakes. Areas of emphasis will include the origin of lake basins, water circulation patterns, heat and water budgets, biogeochemical processes, lake ecosystems, and the stratigraphic record of lakes. We will also discuss human and climatic impacts on lakes. Prerequisites: EEPS 0220 and 0240, or instructor permission. Enrollment limited to 20.
Spr EEPS1150 S01 25800 MWF 11:00-11:50(04) (J. Russell)

EEPS 1240. Stratigraphy and Sedimentation.
Introduction to depositional environments and processes responsible for formation of sedimentary rocks. Major sedimentary environments in the Recent are discussed, general models are proposed, and stratigraphic sequences in older sediments are examined in the light of these models. The Phanerozoic stratigraphic record is examined from the perspective of Earth system history. Laboratory arranged. Prerequisites: EEPS 0220 or 0240, or instructor permission. EEPS 0310, 1410 are also recommended.
Fall EEPS1240 S01 16821 TTh 10:30-11:50(13) (J. Russell)

The goal of this class is to understand the physical principles and processes of the global water cycle. Topics include the climatic importance of water, circulation of atmospheric water vapor, formation of rain and snow, availability of soil water, plant-water relations, mass balance of glaciers, and ongoing and expected changes in the water cycle. Additional goals: become familiar with the current research literature, practice clear and concise science writing, and to use simple programming in Python to plot and analyze actual data sets.
Students are expected to have taken at least one geology-related course. Programming experience recommended, but not necessary.
Spr EEPS1310 S01 25802 TTh 9:00-10:20(01) (J. Lee)

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
EEPS 1320. Introduction to Geographic Information Systems for Environmental Applications
An introduction to basic geographic information system (GIS) concepts, and the utilization and application of geospatial data for analysis. Topics will include data structures and management, coordinate systems and projections, data creation, obtaining spatial data from outside sources, georeferencing and address-matching, model building and batch geoprocessing, and performing fundamental spatial analysis techniques such as overlay, extraction, and interpolation, viewsheds, and hot spot analysis among others. Concepts are presented via online videos (Canvas) and put into practice through weekly hands-on laboratory exercises utilizing the GIS software product ArcGIS 10.x and ArcGIS Pro (ESRI, Inc.). Two presentations by each student are required - a case study, and an original research project employing the methods learned. A public poster session on the original research project culminates the term. If unable to pre-register, a wait list will be used to fill openings on a first come, first serve basis. S/NC.
Fall EEPS1320 S01 16825 TTh 1:00-2:20(08) (L. Carlson)
Fall EEPS1320 S02 16826 Arranged (L. Carlson)

EEPS 1370. Environmental Geochemistry
Introduction to physical principles of remote sensing across electromagnetic spectrum and application to the study of Earth’s systems (oceans, atmosphere, and land). Topics: interaction of light with materials, imaging principles and interpretation, methods of data analysis. Laboratory work in digital image analysis, classification, and multi-temporal studies. One field trip to Block Island. Recommended preparation courses: MATH 0090, 0100; PHYS 0060; and background courses in natural sciences.
Fall EEPS1370 S01 16822 TTh 9:00-10:20(02) (Y. Huang)

EEPS 1410. Mineralogy
Introduction to mineralogical processes on Earth’s surface and its interior. Topics include crystallography, crystal chemistry, nucleation, crystal growth, biominalization, environmental mineralogy, and mantle mineralogy. Laboratory study devoted to optical identification of rock-forming minerals. Prerequisites: EEPS 0230, CHEM 0100 or 0330, or instructor permission.
Fall EEPS1410 S01 16809 MWF 11:00-11:50(16) (R. Cooper)

EEPS 1420. Petrology
Introduction to the origin and evolution of igneous rocks. Topics include: physical properties of magma, thermodynamics and phase equilibria, igneous rocks and their classification, magmatic processes, trace elements and isotopes, basaltic and layered intrusions, survey of lunar and planetary petrology. Prerequisites: EEPS 1410, or instructor permission.
Spr EEPS1420 S01 25273 TTh 1:00-2:20(08) (Y. Liang)

EEPS 1430. Principles of Planetary Climate
This course provides the physical building blocks for understanding planetary climate. Topics include thermodynamics applied to planetary atmosphere, basic radiative transfer, energy balance in the atmosphere, and climate variability. In-class exercises and homework problems are designed to strengthen the understanding of basic concepts and to improve problem-solving skills.
Fall EEPS1430 S01 16823 TTh 2:30-3:50(12) (J. Lee)

EEPS 1450. Structural Geology
Introduction to the geometry, kinematics and mechanics of rocks deformed by brittle fracture or faulting and ductile solid state flow, on scales from microscopic to mountain ranges. The emphasis is on using concepts to interpret the formation, strain history and rheology of deformed rocks in terms of the operative grain-scale processes, material properties and environmental conditions. Weekly 2 hour lab involving hands-on experience closely related to class topics. Two field trips. Prerequisites: EEPS 0220 or instructor permission.
Spr EEPS1450 S01 25798 TTh 10:30-11:50(09) (G. Hirth)

EEPS 1520. Ocean Circulation and Climate
Examines physical characteristics, processes, and dynamics of the global ocean to understand circulation patterns and how they relate to ocean biology, chemistry, climate change. Assignments address ocean's role in the climate system; ocean observations and models; the origin, distribution, and dynamics of large-scale ocean circulation and water masses; energy and freshwater budgets; and variability of the coupled system on seasonal to centennial timescales e.g. El Niño. Intended for geological and physical sciences undergraduate and graduate students with quantitative skills and an interest in oceans, climate, paleoclimate. Pre-requisites: EEPS 0250, EEPS 0350, PHYS 0720, or APMA 0180. Offered alternate years.
Spr EEPS1520 S01 25804 TTh 1:00-2:20(08) (B. Fox-Kemper)

EEPS 1560. Earthquake Seismology
Topics include: location of earthquakes in space and time; measures of size and intensity of shaking; body waves, surface waves, and free oscillations; structure of the interior of the Earth from wave propagation; earthquake faulting and relationship to tectonic processes. Recommended course: EEPS 0161. Offered in alternate years.
Spr EEPS1560 S01 25799 TTh 10:30-11:50(09) (K. Fischer)

EEPS 1690. Introduction to Methods in Data Analysis
This class will be an overview of different ways one can quantitatively analyze data. Topics will include linear regression, least squares inversion, principal component analysis, and Bayesian methods. Emphasis will be on both a theoretical understanding of these methods and on practical applications to geophysical and earth science problems. Exercises will include using MATLAB to analyze data.
Fall EEPS1690 S01 17185 TTh 10:30-11:50(13) (V. Tsai)

EEPS 1810. Physics of Planetary Evolution
The course will explore and expose students to the fundamental physics necessary to understand how planetary bodies evolve. The evolution of planetary bodies will be discussed on the basis of geological and geophysical evidence derived from exploration of the Solar System. This course will study the physical processes responsible for and that occur as a consequence of differentiation and formation of planetary bodies. Includes the study of physical processes responsible for volcanism and deformation on the surface as well as the state and structure of the interior of planets.
Fall EEPS1810 S01 17186 TTh 10:30-11:50(13) (A. Evans)

EEPS 1960A. Rheology of the Crust and Mantle
Introduces the principals of rock mechanics and uses them to describe brittle and ductile deformation processes in the crust and mantle. Each topic will review experimental constraints on deformation mechanisms and introduce the theories that support their application to geological conditions. Analyze microstructural observations in real rocks to link what is learned in the lab to what actually is seen in the Earth. Topics to be covered include: brittle fracture and crack propagation, frictional sliding, the brittle/plastic transition, viscous deformation mechanisms, microstructural analysis of deformed rocks, and the scaling and extrapolation of laboratory flow laws. The class will also feature a field trip to well-exposed crustal faults and shear zones. Several class periods and a class project will focus on microstructural observations of rocks collected during the field trip. Pre-requisite: EEPS 1450 or permission of instructor. Enrollment limited to 20.
Fall EEPS1960A S01 16818 TTh 2:30-3:50(12) (G. Hirth)

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
The shapes of plants and animals, of mountains and shorelines arise because nature dissipates energy as rapidly as possible. These morphological patterns allow description of the energy “landscape” that produced them. Societies and economies show temporal and spatial patterns as well: does the “flow rate” of ideas and of money cause these patterns? We will explore just how “entropy rules.” Enrollment limited to 16. Instructor permission required.
Spr EEPS1960FS01 25274 MW 3:00-4:30 (R. Cooper)

EEPS 1960Z. Physical Volcanology.
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.

Strategies and the physical principles behind the quantitative extraction of geophysical and biophysical properties from remotely sensed data. Emphasis on radiative transfer theory and modeling of spectra and spectral mixtures from optical constants. Advanced methods of digital image processing. Methods of integrating remotely sensed data into a GIS framework will be introduced. Recommended preparation course: EEPS 1330 or 1710; MATH 0100; PHYS 0800.
Fall EEPS2330 S01 16814 MW 8:30-9:50(12) (R. Milliken)

Focuses on the study of reaction mechanisms and rates in geological systems. Emphasis on understanding the principles governing these processes and the tools available for their study. Topics include: rates of chemical reactions, reaction rates of chemical weathering; fundamentals of diffusion, nucleation, crystal growth, and dissolution; transport theory. Recommended prerequisite: EEPS 2460 or equivalent.
Fall EEPS2410 S01 16811 MW 9:00-9:50(01) (Y. Liang)

EEPS 2450. Exchange Scholar Program.

EEPS 2730. Isotope Geochemistry.
A survey course emphasizing fundamental principles in isotope geochemistry, including nuclear systematics, nucleosynthesis, geochronology and stable isotope systems, and the application of radiogenic and stable isotopic tracers to geological problems. Prerequisites: EEPS 1410 and 1420, or instructor permission.
Fall EEPS2730 S01 16813 TTh 1:00-2:20(08) (A. Saal)

EEPS 2840. Asteroids and Meteorites.
Compositional and petrographic characteristics of meteorites are examined along with the physical and compositional diversity of asteroids and other small bodies of the solar system. Possible links between specific types of asteroids and meteorite groups will be evaluated in the context of early solar system evolution. Data from spacecraft encounters with asteroids will be critically reviewed.
Spr EEPS2840 S01 25280 TTh 1:00-2:20(08) (R. Milliken)

EEPS 2820E. Introduction to Organic Geochemistry.
Mainly literature critiques and seminars, supplemented by introductory lectures. Topics include organic biomarkers, analytical methodologies, natural macromolecules, stable isotope ratios of biomarkers, application of organic geochemistry in studies of climatic and environmental change, fossil fuel exploration, and applied environmental research.
Spr EEPS2820ES01 25801 TTh 10:30-11:50(09) (Y. Huang)

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 graduate students only.

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 15713 'To Be Arranged'
Spr EEPS2990 S01 24481 'To Be Arranged'

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 15768 MWF 9:00-9:50(01) (W. Chen)
Fall CHIN0100 S01 15768 TTh 9:30-10:20(01) (W. Chen)
Fall CHIN0100 S02 15769 MWF 10:00-10:50(14) (W. Chen)
Fall CHIN0100 S02 15769 TTh 10:30-11:20(14) (W. Chen)
Fall CHIN0100 S03 15770 MWF 1:00-1:50(06) (W. Chen)
Fall CHIN0100 S03 15770 TTh 1:30-2:20(06) (W. Chen)
Fall CHIN0100 S04 15771 MWF 2:00-2:50(07) (W. Chen)
Fall CHIN0100 S04 15771 TTh 2:30-3:20(07) (W. Chen)

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 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.
Spr CHIN0200 S01 24517 MWF 9:00-9:50(02) (W. Chen)
Spr CHIN0200 S01 24517 TTh 9:30-10:20(02) (W. Chen)
Spr CHIN0200 S02 24518 MWF 10:00-10:50(03) (W. Chen)
Spr CHIN0200 S02 24518 TTh 10:30-11:20(03) (W. Chen)
Spr CHIN0200 S03 24519 MWF 1:00-1:50(06) (W. Chen)
Spr CHIN0200 S03 24519 TTh 1:30-2:20(06) (W. Chen)
Spr CHIN0200 S04 24520 MWF 2:00-2:50(07) (W. Chen)
Spr CHIN0200 S04 24520 TTh 2:30-3:20(07) (W. Chen)

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 15772 MWF 11:00-11:50(16) (L. Jiao)
Fall CHIN0300 S01 15772 TTh 11:00-11:50(16) (L. Jiao)
Fall CHIN0300 S02 15773 MWF 12:00-12:50(15) (L. Jiao)
Fall CHIN0300 S02 15773 TTh 12:00-12:50(15) (L. Jiao)
Fall CHIN0300 S03 15774 MWF 1:00-1:50(06) (L. Jiao)
Fall CHIN0300 S03 15774 TTh 1:00-1:50(06) (L. Jiao)

This course is designed to enhance listening, speaking, reading, and writing skills for Chinese heritage students who have some prior knowledge of Chinese. Five classroom meetings weekly. Placement interview required.
Fall CHIN0350 S01 15782 TTh 12:00-12:50(15) (L. Su)
Fall CHIN0350 S01 15782 MWF 12:00-12:50(15) (L. Su)

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 24521 Arranged (L. Jiao)
Spr CHIN0400 S02 24522 MTWThF 12:00-12:50 (L. Jiao)
Spr CHIN0400 S03 24523 MTWThF 1:00-1:50 (L. Jiao)

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
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 CHIN 0350, 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 24525 MTWThF 12:00-12:50 (L. Su)

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 15775 TTh 9:00-9:50(01) (Y. Wang)
Fall CHIN0500 S02 15776 MWF 11:00-11:50(16) (Y. Wang)
Fall CHIN0500 S02 15776 MWF 11:00-11:50(16) (Y. Wang)
Fall CHIN0500 S03 15778 MWF 12:00-12:50(15) (Y. Wang)
Fall CHIN0500 S03 15778 TTh 12:00-12:50(15) (Y. Wang)

CHIN 0600. 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 conducted when necessary. Prerequisite: CHIN 0600 or permission of instructor.
Fall CHIN0700 S01 15779 MWF 10:00-10:50(14) (L. Hu)

CHIN 0800. Advanced Modern Chinese II.
See Advanced Modern Chinese II (CHIN 0700) for course description.
Prerequisite: CHIN 0700 or permission of instructor.
Spr CHIN0800 S01 24529 MWF 10:00-10:50(03) (L. Hu)

CHIN 0920B. Classical Chinese.
This course aims to build on basic knowledge of reading Classical Chinese grammar, syntax, and vocabulary. The class will use modern Chinese (Mandarin) to discuss classical texts. Readings are original works of prose and poetry dating from the 2nd to 12th century CE. Prerequisite: CHIN 0910B. Instructor permission required.
Fall CHIN0920B S01 15780 TTh 2:30-3:50(12) (W. Chen)

CHIN 0920D. Business Chinese.
Business Chinese focuses on practical language skills that are most useful in business interactions in Chinese-speaking communities. Classroom activities are largely based on authentic documents and correspondence as well as a textbook. Through intensive practice in the listening, speaking, reading and writing of the Chinese language for business purposes, this course aims at enhancing students' linguistic knowledge in a business context. Classes are conducted in Chinese. Prerequisite: CHIN 0800 or instructor permission. Enrollment limited to 18.
Fall CHIN0920D S01 15781 TTh 6:40-8:00PM(10) (Y. Wang)

CHIN 0920G. Chinese Language in the Big Screen.
This course is designed for advanced Chinese language students who have completed CHIN 0600 or equivalent. You will gain language and culture proficiency through studying different genres of movies that reflect Chinese history, social issues and Chinese people's values. The primary objective of this course is to further develop your language proficiency in meaningful and entertaining contexts. By conducting research into the films, creating video summary, and sharing your work with your fellow students, you will build up your interpretive and presentational skills. In place of a final written exam, you will be asked to produce a mini-film.
Spr CHIN0920G S01 24531 TTh 2:30-3:50(11) (L. Hu)

CHIN 0920H. 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 radicles, idioms, proverbs, taboos, verses, vernacular language and internet language. The teaching methods in this course 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.
Spr CHIN0920H S01 24691 TTh 6:40-8:00PM(18) (L. Jiao)

CHIN 1010. Stories from the Chinese Empire: Scholars, Demons and Swindlers.
This bilingual course introduces the culture and society of late imperial China by reading short stories, novels, prose essays between 1368 and 1911. To maintain students' language skills, the lecture is primarily in mandarin aided by English explanation. Students can choose to complete the assignments in either English or Chinese. The course explores the interwoven spectacular fantasy and societal reality of the imperial China. A chronological exposure to different cultural practice and social structures is organized under three rubrics, namely, scholar-official as social elite; merchants and courtesans as mobile agents; and criminals and demons as outcast.
Spr CHIN1010 S01 24548 MWF 11:00-11:50(04) (K. Chen)

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. Designed primarily as a literature course, rather than language class, and conducted entirely in Mandarin Chinese. Prerequisite: CHIN 0800. Instructor permission required.
Fall CHIN1040 S01 15803 MWF 1:00-1:50(06) (L. Wang)

CHIN 1910. Independent Study.
Reading materials for research in Chinese. Sections numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.
Fall CHIN2450. Exchange Scholar Program.
Fall CHIN2450 S01 15456 Arranged 'To Be Arranged'

East Asian Studies

EAST 0350. Pop and Political: Modern Culture in Japan and the Koreans.
This course introduces the modern cultures of Japan and Korea through an examination of events, artifacts, and cultural practices. With a broad understanding of culture as a general process of artistic and intellectual development, as a body of material artifacts, and as a social practice of ordinary life, we'll focus our attention on the implications of studying culture in relation to popular media and political activism. Topics covered will include: colonial fiction, the re-creation of tradition, the proletarian arts, postwar children's culture, the globalization of popular music, myth in the DPRK, shogi print culture, and East Asian activism.
Fall EAST0350 S01 15800 TTh 2:30-3:50(12) (S. Perry)
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 glitz 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.

Spr EAST0533 S01 24547 TTh 1:00-2:20(08) (E. Choi)

EAST 0620. Literature, Science, and Technology in China.
This course explores relations between Chinese science, technical know-how, and literary writings in early modern and contemporary China. The course encourages students to re-frame science and technology in the context of China’s changing Confucian education system, booming market economy, and the multiethnic empire and explores the impact of imperial legacy in scientific imagination in contemporary China. By drawing on materials from local museums as well as latest Chinese science fictions, we will investigate the ways in which knowledge about medicine, handicrafts, and foreign lands transformed the form and content of novels and belle-lettres.

Spr EAST0620 S01 24984 MWF 2:00-2:50(07) (K. Chen)

EAST 1100. Korean Culture and Film.
This course aims to introduce and explore various aspects of Korean history, culture and society. Students are expected to develop a comprehensive understanding of Korean culture by examining contemporary films that pertain to issues such as national identity, history, international relations, religion, Korean life style, and family life. Enrollment limited to 20.

Spr EAST1100 S01 24549 W 3:00-5:30(10) (H. Wang)

EAST 1290. 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 EAST1290 S01 15799 TTh 1:00-2:20(08) (E. Choi)

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 1930. Reading and Writing of the Honors Thesis.
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 1940. Reading and Writing of the Honors Thesis.
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 1940A. Crafting Early Modern China: Handicraft, Witchcraft and Statecraft.
This course examines how Chinese cultural industry was shaped by socio-political institutions and religious practice between 1400 and 1900 CE. The course highlights the concept of craft, broadly understood as the ways of making artifacts and building social community by using environmental resources and through micro-political negotiations in everyday life. The course aims to equip students in ways to decipher the political, religious and gendered significance embedded in cultural products, including literature and decorative arts. We will explore artifacts from the following categories: literary illustration, painting and calligraphy, seals, ceramics, furniture, and textiles. Prerequisites: None.

Fall EAST1940A S01 15801 Th 4:00-6:30(04) (K. Chen)

EAST 1950B. Chinese Women, Gender and Feminism from Historical and Transnational Perspectives.
This seminar course is designed to critically re-evaluate (re)presentations of Chinese women, gender, and feminism in historical, literary, and academic discourses. It examines a diverse body of texts produced through different historical periods and in different geopolitical locations. It emphasizes gender as both a historical construct(s) among competing discourses and as a material process of individual embodiment and disembodiment. The goal of the course is to help advanced students understand Chinese history from a distinctly gendered perspective, to recognize women’s roles in history and writing, and to develop a reflective, cross-cultural approach to gender, politics, and the self.

Fall EAST1950B S01 15802 M 3:00-5:30(05) (L. Wang)

This seminar/workshop discusses a broad range of narrative arts produced over the past 100 years in Japan, and practices the art of translating them. Drawing rigor from the field of linguistics and translation theory, we shall make central to our effort of analyzing Japanese cultural productions an attentiveness to the historicity of language and a self-consciousness of our roles as cultural interpreters. While the course will focus on mid-20th century Japanese short fiction, we will also work on poetry, music, manga, animation, and film, depending on the interests of enrolled students. Pre-requisites: JAPN 0600 or equivalent. Instructor permission required.

Spr EAST1950H S01 24546 Th 4:00-6:30(17) (S. Perry)

EAST 1990. Senior Reading and Research: Selected Topics.
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 EAST2450 S01 15467 Arranged "To Be Arranged"

EAST XLIST. Courses of Interest to Concentrators.
Fall 2020
East Asian Studies is a highly interdisciplinary concentration. The following courses in other departments can be taken for concentration credit. Please check the listing of the appropriate department for the time and location of each course.

Religious Studies
RELS 1440A Themes in Japanese Buddhism

For up-to-date course information please visit Courses@Brown.edu (https://cabs.brown.edu).
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 15783 MWF 9:00-9:50(01) (H. Tajima)
- Fall JAPN0100 S01 15783 TTh 9:00-10:20(01) (H. Tajima)
- Fall JAPN0100 S02 15784 MWF 10:00-10:50(14) (H. Tajima)
- Fall JAPN0100 S02 15784 TTh 10:30-11:50(14) (H. Tajima)
- Fall JAPN0100 S03 15785 MWF 1:00-1:50(06) (H. Tajima)
- Fall JAPN0100 S03 15785 TTh 1:00-2:20(06) (H. Tajima)
- Fall JAPN0100 S04 15786 MWF 11:00-11:50(16) (H. Tajima)
- Fall JAPN0100 S04 15786 TTh 2:30-3:50(16) (H. Tajima)

**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 24532 MWF 9:00-9:50(02) (H. Tajima)
- Spr JAPN0200 S01 24532 TTh 9:00-10:20(02) (H. Tajima)
- Spr JAPN0200 S02 24533 MWF 10:00-10:50(03) (H. Tajima)
- Spr JAPN0200 S02 24533 TTh 10:30-11:50(03) (H. Tajima)
- Spr JAPN0200 S03 24534 MWF 1:00-1:50(06) (H. Tajima)
- Spr JAPN0200 S03 24534 TTh 1:00-2:20(06) (H. Tajima)
- Spr JAPN0200 S04 24535 MWF 11:00-11:50(04) (H. Tajima)
- Spr JAPN0200 S04 24535 TTh 2:30-3:50(04) (H. Tajima)

**JAPN 0300. Intermediate Japanese.**
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 15787 MTWThF 11:00-11:50 (N. McPherson)
- Fall JAPN0300 S02 15788 MTWThF 12:00-12:50 (N. McPherson)
- Fall JAPN0300 S03 15789 MTWThF 1:00-1:50 (N. McPherson)

**JAPN 0400. Intermediate Japanese.**
See Intermediate Japanese (JAPN 0300) for course description. Prerequisite: JAPN 0300 or equivalent. Enrollment limited to 18.

- Spr JAPN0400 S01 24536 MTWThF 11:00-11:50 "To Be Arranged"
- Spr JAPN0400 S02 24537 MTWThF 12:00-12:50 "To Be Arranged"
- Spr JAPN0400 S03 24538 MTWThF 1:00-1:50 "To Be Arranged"

**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 15790 MWF 10:00-10:50(14) (S. Hiramatsu)
- Fall JAPN0500 S01 15790 TTh 12:00-12:50(14) (S. Hiramatsu)
- Fall JAPN0500 S02 15791 MTWThF 2:00-2:50 (S. Hiramatsu)

**JAPN 0600. Advanced Japanese I.**
See Advanced Japanese I (JAPN 0500) for course description.

- Spr JAPN0600 S01 24539 MWF 10:00-10:50(03) (S. Hiramatsu)
- Spr JAPN0600 S01 24539 MWF 10:00-10:50(03) (S. Hiramatsu)

**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 15792 MWF 2:00-2:50(07) (A. Borgmann)

**JAPN 0800. Advanced Japanese II.**
See Advanced Japanese II (JAPN 0700) for course description.

- Spr JAPN0800 S01 24540 MWF 2:00-2:50(07) (A. Borgmann)

**JAPN 0910A. Classical Japanese.**
This is an introductory course to pre-modern Japanese. It will explore the lifestyle and philosophy of samurai in 17th century Japan through reading the book, Gorin no Sho. The book comprises Miyamoto Musashi's thoughts on swordplay, winning, and mind training. The course includes reading background information in English and viewing films and dramas. Enrollment limited to 20.

- Fall JAPN0910A S01 15793 MWF 2:00-2:50(07) (K. Yamashita)

**JAPN 1910. Independent Study.**
Reading materials for research in Japanese. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

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. Six 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 15794 MTWThF 9:00-9:50 "To Be Arranged"
- Fall KREA0100 S02 15795 TTh 9:00-9:50(14) "To Be Arranged"
- Fall KREA0100 S02 15795 MWF 10:00-10:50(14) "To Be Arranged"
- Fall KREA0100 S03 15796 MTWThF 12:00-12:50 "To Be Arranged"

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
KREA 0200. Korean.
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. Six classroom hours per week. Enrollment limited to 18. This is the second half of a year-long course. Students must have taken KREA 0100 to receive credit for this course. The final grade for this course will become the final grade for KREA 0100. If KREA 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.
Spr KREA0200 S01 24541 MTWThF 9:00-9:50 "To Be Arranged"
Spr KREA0200 S02 24542 TTh 9:00-9:50(03) "To Be Arranged"
Spr KREA0200 S02 24542 MWF 10:00-10:50(03) "To Be Arranged"
Spr KREA0200 S03 24543 MTWThF 12:00-12:50 "To Be Arranged"

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 15797 MTWThF 11:00-11:50 (H. Ha)

See Intermediate Korean (KREA 0300) for course description. Prerequisite: KREA 0100-0200 or equivalent.
Spr KREA0400 S01 24543 MTWThF 11:00-11:50 (H. Ha)

KREA 0500. Advanced Korean.
Aims to help students develop an advanced level of communicative competence, with special focus on enhancing their reading comprehension, essay writing, and discourse (discussion and presentation) skills. Authentic reading materials from a variety of sources will be used to introduce various topics and issues pertaining to Korean society and culture, thus students' cultural understanding will also be enhanced. Prerequisite: KREA 0400 or equivalent or permission of instructor.
Fall KREA0500 S01 15798 MWF 12:00-12:50(15) (H. Wang)

KREA 0600. Advanced Korean.
See Advanced Korean (KREA 0500) for course description. Prerequisite: KREA 0500 or equivalent or permission of instructor.
Spr KREA0600 S01 24545 MWF 12:00-12:50(05) (H. Wang)

KREA 1910. Independent Study.
Reading materials for research in Korean. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

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 1110, 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 course required. (conferences are not held during the summer session).
Fall ECON0110 S01 15988 MWF 9:00-9:50(01) (R. Friedberg)
Spr ECON0110 S01 24669 MWF 9:00-9:50(02) (R. Friedberg)

ECON 0170. Essential Mathematics for Economics.
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.

ECON 0200. 20th Century Political Economy.
This course covers major debates in the 20th century political economy, starting with the Bolshevik Revolution and the Treaty of Versailles. We examine the Great Depression, the New Deal, and Postwar economic planning in the US and UK. We then turn to consider important periods in the second half of the 20th century, including Indian Economic Planning, Bretton Woods, and inflation in the 1970s. The course ends with a consideration of trade, trade deficits, sovereign debt crises, and austerity. The aim is to develop an understanding of both sides of key debates in political economy.
Spr ECON0200 S01 25370 T 4:00-5:30(16) (E. Skarbek)

Basic accounting theory and practice. Accounting procedures for various forms of business organizations.
Fall ECON0710 S01 16172 MW 6:00-7:30 (F. Sciuco)
Fall ECON0710 S02 16173 TTh 6:00-7:30 (T. Lonardo)
Spr ECON0710 S01 24927 MW 6:00-7:30 (F. Sciuco)
Spr ECON0710 S02 24928 TTh 6:00-7:30 (T. Lonardo)

ECON 1110. Intermediate Microeconomics.
Tools for use in microeconomic analysis, with some public policy applications. Theory of consumer demand, theories of the firm, market behavior, welfare economics, and general equilibrium.
Fall ECON1110 S01 16174 TTh 9:00-10:20(02) "To Be Arranged"
Fall ECON1110 S02 16175 MW 10:00-10:50(14) (P. Dal Bo)
Fall ECON1110 S03 16176 MWF 2:00-2:50(07) "To Be Arranged"
Spr ECON1110 S01 24930 TTh 9:00-10:20(01) (R. Vohra)
Spr ECON1110 S02 24931 MW 3:00-4:20(10) "To Be Arranged"
Spr ECON1110 S03 24932 MWF 9:00-9:50(02) "To Be Arranged"

ECON 1130. Intermediate Microeconomics (Mathematical).
Microeconomic theory: Theories of the consumer and firm, competitive equilibrium, factor markets, imperfect competition, game theory, welfare economics, general equilibrium. May not be taken in addition to ECON 1110. The instructor(s) of this course utilize override codes to grant access for registration restrictions rather than the request/wait list feature in C@B. Please reach out to the instructor directly for an override.
Fall ECON1130 S01 16177 MW 8:30-9:50(01) (R. Serrano)
Spr ECON1130 S01 24936 MW 8:30-9:50(02) (R. Serrano)

ECON 1200. History of Economic Thought.
This course covers the history of modern (20th century) economics and economic thinking from the marginal revolution through the first half of the 20th century. The aim will be to develop an understanding of the origin and evolution of central concepts in economic theory, including subjective utility, marginal analysis, competitive markets, examine methodological disputes over positivism and formalism, and the development of general competitive equilibrium. We will consider the emergence of certain subfields in modern economics, and end with a discussion of the relevance of these ideas for economics in the 21st century.
Fall ECON1200 S01 16879 TTh 2:30-3:50(12) (E. Skarbek)
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<th>Course Code</th>
<th>Title</th>
<th>Instructor</th>
<th>Time</th>
<th>Room</th>
<th>Notes</th>
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</thead>
<tbody>
<tr>
<td>ECON 1210</td>
<td>Intermediate Macroeconomics</td>
<td>(J. Fanning)</td>
<td>MWF 9:00-10:20</td>
<td>(01)</td>
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<tr>
<td>ECON 1225</td>
<td>Advanced Macroeconomics: Monetary, Fiscal, and Stabilization Policies</td>
<td>(E. Oster)</td>
<td>TTh 2:00-2:50</td>
<td>(07)</td>
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<tr>
<td>ECON 1310</td>
<td>Economics of Education I</td>
<td>(G. Egbertsson)</td>
<td>TTh 2:30-3:50(11)</td>
<td>(G. Egbertsson)</td>
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<tr>
<td>ECON 1310</td>
<td>Labor Economics</td>
<td>(J. Tyler)</td>
<td>MWF 9:00-10:20(01)</td>
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<tr>
<td>ECON 1350</td>
<td>Environmental Economics and Policy</td>
<td>(K. Chay)</td>
<td>TTh 1:00-2:20(08)</td>
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<tr>
<td>ECON 1355</td>
<td>Environmental Issues in Development Economics</td>
<td>(A. Poterack)</td>
<td>MWF 2:00-2:50(07)</td>
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<tr>
<td>ECON 1370</td>
<td>Race and Inequality in the United States</td>
<td>(G. Loury)</td>
<td>TTh 1:00-2:20(08)</td>
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<tr>
<td>ECON 1400</td>
<td>The Economics of Mass Media</td>
<td>(J. Shapiro)</td>
<td>TTh 9:00-10:20(01)</td>
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<tr>
<td>ECON 1430</td>
<td>The Economics of Social Policy</td>
<td>(L. Putterman)</td>
<td>TTh 10:30-11:50(09)</td>
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<tr>
<td>ECON 1450</td>
<td>Economic Organizations and Economic Systems</td>
<td>(E. Oster)</td>
<td>TTh 10:30-11:50(09)</td>
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<tr>
<td>ECON 1460</td>
<td>Industrial Organization</td>
<td>(L. Putterman)</td>
<td>TTh 10:30-11:50(09)</td>
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<tr>
<td>ECON 1486</td>
<td>The Economic Analysis of Political Behavior</td>
<td>(J. Fanning)</td>
<td>TTh 10:30-11:50(13)</td>
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</table>

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
ECON 1510. Economic Development.
This course is an introduction to development economics and related policy questions. It discusses the measurement of poverty and inequality; growth; population change; health and education; resource allocation and gender; land and agriculture; and credit, insurance, and savings. The course provides a theoretical framework for the economic analysis of specific problems associated with developing economies, and introduces empirical methods used to evaluate policies aimed at solving these problems. By the end of the class, students will be able to discuss some of the “hot topics” in development, like microfinance, family planning, or the problem of “missing women” in South-East Asia.

Fall ECON1510 S01 16184 MWF 12:00-12:50(15) ‘To Be Arranged’

ECON 1530. Health, Hunger and the Household in Developing Countries.
Microeconomic analysis of household behavior in low income societies emphasizing the economic determinants of health and nutrition and the evaluation of policy. The relationship among health, nutrition, fertility, savings, schooling, labor productivity, wage determination, and gender-based inequality. Emphasizes theoretically-based empirical research. Enrollment limited to 30.

Fall ECON1530 S01 16279 M 3:00-5:30(05) (A. Foster)

ECON 1540. International Trade.

Fall ECON1540 S01 16479 MWF 2:00-2:50(07) (J. Blaum)

ECON 1560. Economic Growth.
A theoretical and empirical examination of economic growth and income differences among countries. Focuses on both the historical experience of countries that are currently rich and the process of catch-up among poor countries. Topics include population growth, accumulation of physical and human capital, technological change, natural resources, income distribution, geography, government, and culture. Enrollment limited to 100.

Spr ECON1560 S01 25174 MW 8:30-9:50(02) (D. Weil)

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 16971 TTh 9:00-10:20(02) (P. Dal Bo)

ECON 1620. Introduction to Econometrics.

Fall ECON1620 S01 16217 TTh 9:00-10:20(02) (B. Knight)
Spr ECON1620 S01 24946 TTh 10:30-11:50(09) (M. Michalopoulous)

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 (eg, 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 16225 MWF 2:00-2:50(07) ‘To Be Arranged’
Spr ECON1629 S01 24953 TTh 2:30-3:50(11) ‘To Be Arranged’

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 16232 TTh 10:30-11:50(13) ‘To Be Arranged’
Spr ECON1630 S01 24959 MWF 2:00-2:50(07) ‘To Be Arranged’

ECON 1660. Big Data.
The spread of information technology has lead to the generation of vast amounts of data on human behavior. This course explores ways to use this data to better understand the societies in which we live. The course weaves together methods from machine learning (OLS, LASSO, trees) and economics (reduced form causal inference, economic theory, structural modeling) to answer real world questions in a sequence of projects. We will use these projects as a backdrop to weigh the importance of causality, precision, and computational efficiency. Knowledge of basic econometrics and programming is assumed.

Fall ECON1660 S01 16829 W 3:00-5:30(17) (D. Bjorkgren)

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 16233 MWF 11:00-11:50(16) (S. Kuo)
Fall ECON1710 S02 16234 MWF 1:00-1:50(06) (S. Kuo)
Spr ECON1710 S01 24960 MWF 11:00-11:50(04) (S. Kuo)
Spr ECON1710 S02 24961 MWF 1:00-1:50(06) (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 16235 MWF 9:00-9:50(01) (B. Gibbs)
Spr ECON1720 S01 24962 MWF 12:00-12:50(05) (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 16285 TTh 10:30-11:50(13) (R. La Porta)

ECON 1750. Investments II.
Individual securities: forwards, futures, options and basic derivatives, pricing conditions. Financial markets: main empirical features, equity premium and risk-free rate puzzles, consumption based asset pricing models, stock market participation, international diversification, and topics in behavioral finance.

Fall ECON1750 S01 16274 TTh 1:00-2:20(08) (K. Rozen)

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 16275 MWF 1:00-1:50(06) (B. Gibbs)
ECON 1780. Advanced Topics in Corporate Finance.
This advanced, case-based seminar is focused on delving deeply into several key pillars of corporate finance: valuation, financing, cash management, and, importantly, business ethics. We will build upon concepts presented in earlier finance courses, in particular, ECON 1710 and ECON 1720, and will use MBA-level cases to explore in much greater detail several concepts introduced in these classes. This course is rigorous - we will be analyzing at least one case each week and qualitative and quantitative case write-ups will be required throughout the semester, as well as a comprehensive final project. We will have guest speakers throughout the semester.
Spr ECON1780 S01 24963 TTh 1:00-2:20(08) (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 to account for these violations. We will cover, for instance, models of limited attention, non-expected utility, and hyperbolic discounting.
Fall ECON1820 S01 16276 MW 8:30-9:50(01) (G. De Clippel)

ECON 1850. Theory of Economic Growth.
Analysis of the fundamental elements that determine economic growth. It examines the role of technological progress, population growth, income inequality, and government policy in the determination of (a) the pattern of economic development within a country, and (b) sustainable differences in per capita income and growth rates across countries. Enrollment limited to 100.
Fall ECON1850 S01 16277 TTh 2:30-3:50(12) (O. Galor)

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

Techniques of mathematical analysis useful in economic theory and econometrics. Linear algebra, constrained maximization, difference and differential equations, calculus of variations.
Fall ECON2010 S01 16281 MW 2:30-3:50 (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 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 interactive lectures and reinforced in in-class group work and at-home assignments.
Spr ECON2020 S01 25167 MW 10:30-11:50 "To Be Arranged"

ECON 2030. Introduction to Econometrics I.
The probabilistic and statistical basis of inference in econometrics.
Fall ECON2030 S01 16282 TTh 1:00-2:20(08) (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 25168 TTh 10:30-11:50(09) "To Be Arranged"

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 16283 MW 1:00-2:20 (R. Serrano)

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 25169 MW 1:00-2:20 (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 16284 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 25170 TTh 1:00-2:20(08) (G. Eggertsson)

ECON 2180. Game Theory.
Fall ECON2180 S01 16694 TTh 2:30-3:50(12) (J. Fanning)

ECON 2260. Political Economy I.
This first course in political economy provides theoretical and empirical coverage of the application of economic analysis to political behavior and institutions. This course is designed for students wishing to specialize in political economy but may also be useful for students specializing in related areas, such as development economics and macroeconomics. After starting with a basic overview of candidates and voters, we then turn to specific topics in the areas of electoral systems, legislatures and legislative bargaining, the role of the media, local public finance, and fiscal federalism.
Fall ECON2260 S01 16477 TTh 2:30-3:50(12) (B. Knight)

ECON 2270. Political Economy II.
This is the second course in the political economy sequence. It continues the theoretical and empirical coverage of the economic analysis to political behavior and institutions. This course is designed for students wishing to specialize in political economy. A variety of topics will be covered paying special attention to the formation of skills necessary to become a producer of research and moving away from being just a consumer.
Spr ECON2270 S01 25171 F 9:30-12:00 (P. DalBo)

ECON 2320. Applied Methods.
This course examines identification issues in empirical microeconomics. The focus on the sensible application of econometric methods to empirical problems in economics and policy research. The course examines issues that arise when analyzing non-experimental data and provides a guide for tools that are useful for applied research. By the end of the course, students should have a firm grasp of the types of research designs and methods that can lead to convincing analysis and be comfortable working with large-scale data sets.
Fall ECON2320 S01 16478 MW 10:30-11:50 (E. Oster)

ECON 2330. Topics in Labor Economics.
The course introduces students to procedures used to extract evidence from data and to perform rigorous causal inference in order to evaluate public policy on issues such as schooling, the return to education and returns on late intervention programs. Econometric methods, such as Instrumental Variable, Matching, Control Functions, Self Selection Models and Discrete Choice as well as Panel Data Methods, are discussed in detail.
Spr ECON2330 S01 25173 W 1:00-3:20 (K. Chay)

ECON 2450. Exchange Scholar Program.
Fall ECON2450 S01 15468 Arranged "To Be Arranged"
Fall ECON2450 S02 15469 Arranged "To Be Arranged"
Spr ECON2450 S01 24271 Arranged "To Be Arranged"
ECON 2470. Industrial Organization.
The focus of this course will be on empirical models for understanding the interactions between firms and consumers in imperfectly competitive markets. Lectures and problem sets will teach canonical models and methods; class discussion will focus on applications of these methods, especially applications outside of traditional areas of industrial organization. Students who take this class will be prepared to conduct research in industrial organization or to "export" methods from industrial organization to other areas of applied microeconomics.

Fall ECON2470 S01 16505 T 1:00-3:20 (J. Shapiro)

ECON 2485. Public Economics I.
This course covers core issues in the design of optimal government policies, and the empirical analysis of those policies in the world. In addition, this course will familiarize students with the basic empirical methods and theoretical models in applied microeconomics. Emphasis is placed on connecting theory to data to inform economic policy. Specific topics include efficiency costs and incidence of taxation, income and corporate taxation, optimal tax theory, tax expenditures and tax-based transfer programs, welfare analysis in behavioral models, and social security and retirement policy.

Fall ECON2485 S01 16916 TTh 9:00-10:20(02) (J. Friedman)

ECON 2520. Economic Development II.
This course deals with the economic analysis of institutions, with a particular focus on community-based institutions in developing countries. Institutions covered in this course include cooperatives, ROASCs, networks, marriage and the family.

Fall ECON2520 S01 16831 TTh 10:30-11:50 (D. Bjorkegren)
Spr ECON2520 S01 25371 MW 9:00-10:20 (A. Foster)

ECON 2530. Behavioral and Experimental Economics.
An introduction to the methodology of experimental economics with an emphasis on experiments designed to illuminate problems in organizational design and emergence of institutions, and experiments investigating the operation of social and social-psychological elements of preference such as altruism, inequality aversion, reciprocity, trust, concern for relative standing, envy, and willingness to punish norm violators. Experiments studied will include ones based on the prisoners' dilemma, dictator game, ultimatum game, and especially the voluntary contribution mechanism (public goods game) and the trust game. Junior and seniors in the APMA-Economics, Math-Economics and CS-Economics may enroll with instructor's permission.

Spr ECON2530 S01 25480 M 3:00-5:30(13) (L. Puterman)

ECON 2830. Economic Growth and Comparative Development.
This course will explore the origins of the vast inequality in income per capita across countries, regions and ethnic groups. It will analyze the determinants of growth process over the entire course of human history and will examine the role of deeply-rooted geographical, institutional, cultural, and genetic factors in the observed pattern of uneven development across the globe.

Spr ECON2830 S01 25367 F 9:30-12:00 "To Be Arranged"

ECON 2840. Empirical Analysis of Economic Growth.
Examines economic growth, focusing on the effects of technological change, fertility, income inequality, and government policy. ECON 2830 is strongly recommended.

Spr ECON2840 S01 25478 TTh 9:00-10:20(01) (D. Weil)

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.

Spr ECON2860 S01 25328 Th 1:00-3:20 (S. Michalopoulos)

ECON 2890C. Topics in Macro 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 25477 TTh 10:30-11:50(09) (G. Eggertsson)

ECON 2890D. Topics in Macroeconomics, Development and Trade.
This is a graduate class that covers selected topics at the intersection of macroeconomics, economic development and trade, for students in the second year of the PhD and above. The leading theme of the class is the determinants of the observed cross-country differences in income per capita and growth rates, with a focus on the long run. We start by reviewing theories where factor markets function perfectly and only aggregates matter. We then move to non-aggregative theories, placing special emphasis on theories of financial frictions. We spend some time studying the stochastic growth model with partially uninsurable idiosyncratic risk.

Fall ECON2890D S01 17024 MW 9:00-10:20 (J. Blaum)

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.

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

Fall ECON2990 S01 15470 Arranged "To Be Arranged"
Spr ECON2990 S01 24272 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 EDU00300 S01 16014 MWF 11:00-11:50(16) (A. Flores)

EDUC 0410A. New Faces, New Challenges: Immigrant Students in U.S. Schools.
What challenges do immigrant students face in adapting to a new system of education? By comparing and contrasting the perspectives education stakeholders--students, teachers, administrators, and parents--this course examines a number of key contributions to the study of the immigrant experience in education, as well as a selection of memoirs and films about the pathways these newcomers take in navigating school and (trans)forming their developing identities. Enrollment limited to 19 first year students.

Spr EDU00410A S01 24768 W 3:00-5:30(10) (A. Flores)

EDUC 0750. 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 EDU000750 S01 24695 TTh 9:00-10:20(01) (S. Loeb)
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.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
EDUC 1150. Education, the Economy and School Reform. This seminar examines the linkages between educational achievement and economic outcomes for individuals and nations. We study a range of system, organizational, and personnel reforms in education by reviewing the empirical evidence and debating which reforms hold promise for improving public education and closing persistent achievement gaps. Understanding and critiquing the experimental, quasi-experimental and descriptive research methods used in the empirical literature will play a central role in the course. Prerequisites: Education and PP concentrators, EDUC 1130 and EDUC 1110 (or equivalent); Economics concentrators, ECON 1110 or ECON 1210, and ECON 1620. Enrollment limited to 20.
Spr EDUC1150 S01 24697 TTh 10:30-11:50(09) (M. Kraft)

EDUC 1270. Adolescence in Social Context. Both an individual and a collective perspective on adolescence are used to provide an understanding of how this life stage is differently experienced by youth cross-culturally. Readings include theoretical and empirical papers from such areas as psychology, sociology, anthropology, and education.
Spr EDUC1270 S01 24689 TTh 10:00:10-50(03) (M. Kraft)

EDUC 1380. Language and Education Policy in Multilingual Contexts. Children who are assessed in a language different from that spoken at home demonstrate lower learning outcomes than their peers. 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, via three main learning objectives: develop foundational concepts related to language in education policies, apply them critically to specific contexts, and develop research and writing skills necessary for policy and practice work. Students will explore systems around the world, with attention to the policy cycle from design to implementation.
Spr EDUC1380 S01 24703 M 3:00-5:30(13) (P. De Galbert)

EDUC 1430. Social Psychology of Race, Class, and Gender. Focuses on the social construction of race, class, and gender and how this construction influences an individual’s perception of self and other individuals. Topics include identity development, achievement, motivation, and sociopolitical development. Enrollment limited to 30.
Spr EDUC1430 S01 24694 MWF 9:00-9:50(02) (D. Rangel)

EDUC 1730. American Higher Education in Historical Context. A study of 350 years of American higher education. The first part traces the growth and development of American higher education from premodern college to the modern research university. The second part examines issues facing higher education today and places them in historical context. Particular attention is given to: the evolution of curriculum; professionalization; student life; and the often competing priorities of teaching, research and service.
Spr EDUC1730 S01 24701 TTh 1:00-2:20(08) ‘To Be Arranged’

EDUC 1890. 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 EDUC1890 S01 16040 TTh 9:00-10:20(02) (Y. Yamamoto)

EDUC 1900. Senior Seminar. Required of and reserved for seniors of the Education Studies Concentration as a culminating experience of your Concentration. Our foundational and methodological courses introduced you to the basic themes and research in the field, and upper-level courses typically focused on particular topics in greater depth. Your decision to be an Education Studies concentrator was likely related to one or more of the central themes of the field of education (e.g., human development, education policy and history, culture, race/ethnicity, gender, social justice, etc.). We hope to build on these learning experiences, broadening and deepening your learning across different areas of education.
Fall EDUC1900 S01 16019 MWF 2:00-2:50(07) (J. Li)

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

EDUC 1990. Independent Reading and Research. Supervised reading and/or research for education concentrators who are preparing an honors thesis. Written permission from the honors advisor required. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

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

EDUC 2360. Policy Analysis and Program Evaluation for Education. Informed education policymaking requires reliable information about the causal effects of government programs and other factors 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 15858 TTh 4:00-5:20 (J. Papay)

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 24666 W 3:30-6:00 (E. Ozalbash)

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 in 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 15857 M 4:00-6:30 (C. Thomas)

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
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 2022, 15946 W 3:00-5:30 (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 Teacher 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 research, discussion, and inquiry. Artifacts of instruction, practice, and assessment will be examined and analyzed. Fall 2022, 15941 Th 1:00-2:20 (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 2022, 15943 Th 1:00-2:20 (L. Snyder)

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 2022, 15944 Th 1:00-2:20 (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 areas of instruction and curriculum: CCSS math standards, how students learn, approaches to student-centered mathematics instruction, and choosing and revising curriculum materials. Students will explore what it means to be culturally responsive in each of these areas. Fall 2022, 15945 Th 1:00-2:20 (D. Silva Pimentel)

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 2022, 15940 T 1:00-2:20 (L. Snyder)

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 2022, 24660 W 3:30-5:00 (L. Snyder)

EDUC 2520B. Educational Theory and Practice in Teaching Social Studies III.
This course 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 spring semester, this course delves more deeply into thinking about what it means to be culturally responsive in particular aspects of curriculum and instruction. Spr 2022, 24661 W 3:30-5:00 (D. Silva Pimentel)

EDUC 2520C. 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 2022, 24667 W 3:30-5:00 (D. Silva Pimentel)

EDUC 2520D. 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 2022, 24662 W 3:30-5:00 (D. Silva Pimentel)

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
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 17113 W 3:00-5:30(17) "To Be Arranged"

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.
Fall EDUC2545 S01 24658 Th 4:00-5:30 "To Be Arranged"

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 24659 M 3:30-5:00 (D. Silva Pimentel)

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 student teaching sites, provides the practical component of MAT students’ linguistic, academic, and socio-emotional needs. New 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 EDUC2575 S01 25539 Arranged "To Be Arranged"

EDUC 2890. 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.
Fall EDUC2890 S01 15471 Arranged "To Be Arranged"
Spr EDUC2890 S01 24273 Arranged "To Be Arranged"

EDUC 2990. Thesis Preparation.
For graduate students who have met the residency requirement and are continuing research on a full time basis.
Fall EDUC2990 S01 15449 Arranged "To Be Arranged"
Spr EDUC2990 S01 24258 Arranged "To Be Arranged"

ASYR 2990. Thesis Preparation.
For graduate students who have met the residency requirement and are continuing research on a full time basis.
Fall ASYR2990 S01 15449 Arranged "To Be Arranged"
Spr ASYR2990 S01 24258 Arranged "To Be Arranged"

ASYR XLST. Courses of Interest to Concentrators in Egyptology and Assyriology.

Egyptology
EGYT 1910. Senior Seminar.
Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.
EGYT 1920. Senior Seminar.
Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

EGYT 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 preliminary examination.
Fall EGYT2970 S01 15472 Arranged "To Be Arranged"
Spr EGYT2970 S01 24274 Arranged "To Be Arranged"

EGYT 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.

EGYT 2990. Thesis Preparation.
For graduate students who have met the residency requirement and are continuing research on a full time basis.
Fall EGYT2990 S01 15473 Arranged "To Be Arranged"
Spr EGYT2990 S01 24275 Arranged "To Be Arranged"

EGYT XLST. Courses of Interest to Concentrators in Egyptology and Assyriology.

Assyriology
EGYT 1910. Senior Seminar.
Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.
EGYT 1920. Senior Seminar.
Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

EGYT 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 preliminary examination.
Fall EGYT2970 S01 15472 Arranged "To Be Arranged"
Spr EGYT2970 S01 24274 Arranged "To Be Arranged"

EGYT 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.

EGYT 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 preliminary examination.
Fall EGYT2990 S01 15473 Arranged "To Be Arranged"
Spr EGYT2990 S01 24275 Arranged "To Be Arranged"

EGYT XLST. Courses of Interest to Concentrators in Egyptology and Assyriology.

Engineering
This course will address the impact that technology has on society, the central role of technology on many political issues, and the need for all educated individuals to understand basic technology and reach an informed opinion on a particular topic of national or international interest. The course will begin with a brief history of technology.
Spr ENGN0020 S01 25054 MWF 11:00-11:50(04) (J. Harry)

ENGN 0030. Introduction to Engineering.
ENGN 0030 introduces students to the engineering profession and the important role engineers play in society. The course content begins with engineering design, followed by the analysis of static structures. Topics also include Computer Aided Design, basic Matlab programming, professional ethics, and social responsibility. Students complete group training modules and design projects in the Brown Design Workshop, led by an undergraduate mentor. ENGN 0030 provides the foundation for further study in engineering. It should be taken by students considering concentrating in engineering, interested in the entrepreneurship curriculum, and curious about engineering and design. Students should be enrolled in MATH 0100 or higher.
Fall ENGN0030 M01 16510 MWF 1:00-1:50 (K. Haberstroh)
Fall ENGN0030 S01 15853 T 9:00-10:20 (D. Pacifici)
Fall ENGN0030 S02 15854 T 10:30-11:50 (D. Pacifici)
Fall ENGN0030 S03 15855 T 2:30-3:50 (D. Pacifici)

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
ENGN 0040. Dynamics and Vibrations.  
A broad introduction to Newtonian dynamics of particles and rigid bodies with applications to engineering design. Concepts include kinematics and dynamics of particles and rigid bodies; conservation laws; vibrations of single degree of freedom systems; and use of MATLAB to solve equations of motion and optimize engineering designs. Examples of applications are taken from all engineering disciplines. Lectures, recitation, and team design projects, including use of Brown Design Workshop. Prerequisite: ENGN 0030. Corequisite: MATH 0200 or MATH 0180.  
Spr ENGN040 S01 25030 MWF 9:00-10:20(01) (R. Fleeter)  
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 16319 TTh 1:00-2:20(08) (T. Chaltas)  
Fall ENGN0090 S02 16511 TTh 2:30-3:50(12) (T. Chaltas)  
ENGN 0120A. Crossing the Consumer Chasm by Design.  
Technologies have shaped human life since tools were sticks and flints to today’s hydrocarbon powered, silicon managed era. Some spread throughout society; bread, cell phones, airlines, but most never do; personal jet packs, Apple Newton, freeze dried ice cream.  
Space Tourism, the Segway, electric cars: Can we predict which ones will cross the chasm to broad application? Can we help them to by combining design, engineering, marketing, communications, education, art, and business strategies?  
Student teams identify potential new products, conceptualize, package, and define their business mode. By plotting their course across the chasm, we confront the cross-disciplinary barriers to realizing benefits from technology.  
Enrollment limited to 18 first year students. Instructor permission required.  
Spr ENGN120/S01 24881 MWF 11:00-11:50(04) (R. Fleeter)  
ENGN 0120B. Crossing the Space Chasm Through Engineering Design.  
Five decades of human activity in space has provided the world community with benefits including instant global communications and positioning, human and robotic exploration of the moon, planets and sun, and a perspective of earth which continues to inform and influence our relationship with our environment.  
Unlike other technical revolutions of the 20th century space has not transitioned to a commercial, consumer market commodity. Rather its relationship with our environment.  
To experience the challenges of engineering design and of changing an industrial paradigm, we will work in one or several groups to identify a use of space, and a plan for its implementation, that could help transition space from its status as a niche technology. Through the process of design, we will confront the technical, economic, societal and political barriers to obtaining increased benefits from technologies in general, and space in particular, and to making new technologies beneficial to a wider range of users. Enrollment limited to 18 first year students. Instructor permission required.  
Spr ENGN120/S01 24882 MWF 2:00-2:50(07) (R. Fleeter)  
ENGN 0130. The Engineer’s Burden: Why Changing the World is Difficult.  
We will examine the assertion that most of the changes that have improved people’s lives are essentially technological and then we will look at the difficulties at creating sustainable and beneficial change. Topics of interest include unintended consequences, failure to consider local culture, and engineering ethics. Many, but not all, of the examples will have a third world context. The engineering focus will be on infrastructure—housing, water and sanitation, transportation, and also mobile devices as used in health care and banking.  
Fall ENGN0130 S01 16320 MWF 11:00-11:50(16) (B. Hazeltine)  
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.  
Fall ENGN0310 S01 16285 MWF 9:00-9:50(01) (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 16290 TTh 9:00-10:20(02) (E. Chason)  
This course presents a broad introduction to environmental engineering, and will help students to explore environmental engineering as an academic major and as 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 16529 TTh 1:00-2:20(08) (K. Pennell)  
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 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 16521 MWF 10:00-10:50(14) (D. Mittelman)  
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 25037 MWF 10:00-10:50(03) (C. Rose)  
ENGN 0720. Thermodynamics.  
An introduction to macroscopic thermodynamics and some of its engineering applications. Presents basic concepts related to equilibrium and the zeroth, first and second laws for both closed and open systems. Examples include analysis of engines, turbines, and other engineering cycles, phase equilibrium and separation processes, chemical reactions, surface phenomena, magnetic and dielectric materials. Lectures, recitations, and laboratory. Prerequisites: ENGN 0030 or ENGN 0040 or equivalent; ENGN 0410 or CHEM 0330. An understanding of intermediate calculus is recommended, such as MATH 0180 or MATH 0200.  
Spr ENGN0720 S01 24837 TTh 10:30-11:50(09) (G. Palmore)  

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

Fall ENGN0810 S01 16526 MWF 10:00-10:50(06) (T. Powers)

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 0900 or MATH 0100.

Spr ENGN0900 S01 24883 TTh 1:00-2:20(08) (T. Chaltas)

ENGN 0930A. Appropriate Technology. Our goal for this course is that you learn 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 ENGN0930A/S01 25043 MWF 1:00-1:50(06) (B. Hazeltine)

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 24884 MW 9:00-12:00 (J. Gosher)

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 design a research project to meet a clinical need, and engage in the design process throughout the semester. Engineering concentrators should register for ENGN1930L.

Fall ENGN0930L S01 16308 MW 8:30-9:50(01) (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 project experience and generating innovative solutions. Engineering concentrators should register for ENGN 1931L.

Spr ENGN0931L/S01 24867 M 3:00-5:30(13) (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 submit a project proposal no later than October 1. Instructor permission required.

Fall ENGN1000 S01 16539 M 3:00-5:30(05) (J. Fontaine)

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 24880 M 3:00-5:30(13) (J. Fontaine)

ENGN 1010. The Entrepreneurial Process: Innovation in Practice. 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 16543 TTh 10:30-11:50(13) (D. Warshay)

Fall ENGN1010 S02 16544 M 6:00-8:30PM (J. Cohen)

Fall ENGN1010 S03 16545 W 5:00-6:30(17) (F. Slutsky)

Spr ENGN1010 S01 24887 TTh 10:30-11:50(09) (D. Warshay)

Spr ENGN1010 S02 24888 MW 3:00-4:20(10) (J. Harry)

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; absorption; membrane and transvascular transport; electrophoretic separations; pharmacokinetics and drug transport; equilibrium stage processes; distillation and extraction. Other features: design concepts; modern experimental and computing techniques; laboratory exercises. Prerequisite: Junior level or higher standing.

Spr ENGN1110 S01 24858 T-Th 2:30-3:50(11) (I. Wong)


Fall ENGN1120 S01 16530 TTh 2:30-3:50(12) (F. Goldsmith)

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 24859 TTh 6:40-8:00PM(18) (M. Wojewicz)


Spr ENGN1210 S01 24864 MWF 2:00-2:50(07) (V. Srivastava)
ENGN 1220. Neuroengineering
Course Goals: To develop an advanced understanding of how signals are generated and propagated in neurons and neural 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.
Spr ENGN1220 S01 24869 TTh 1:00-2:20(08) (A. Nurmikko)

ENGN 1230. Instrumentation Design
Sensors for pressure, temperature, blood flow, muscle and neural activity, Amplifiers, filters, and A/D-D/A converters. The use of computers in monitoring and controlling physiological processes. Feedback controllers for temperature, flow rate, and experimental stimuli. Intended as a design course primarily for biomedical engineers. Lab times to be arranged.
Fall ENGN1230 S01 16300 MWF 10:00-10:50(14) (D. Borton)

ENGN 1300. Structural Analysis
Classical and modern methods of analysis for statically indeterminate structures. Development of computer programs for the analysis of civil, mechanical, 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.
Spr ENGN1300 S01 25051 TTh 1:00-2:20(08) (Y. Bazilevs)

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 the visit to a local wastewater treatment plant. Prerequisites: CHEM 0100 or CHEM 0330 and MATH 0170 or MATH 0190 or MATH 0350 or MATH 0180 or MATH 0200. Course is not available for Freshmen.
Spr ENGN1340 S01 24860 W 3:00-5:30(10) (I. Kulaots)

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.
Spr ENGN1370 S01 24875 TTh 9:00-10:20(01) (K. Kim)

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.
Fall ENGN1410 S01 16313 Th 4:00-6:30(04) (A. Van De Walle)

ENGN 1420. Kinetics Processes in Materials Science and Engineering
This course introduces the basic principles and formulations that describe kinetic processes in materials science and engineering. These are divided into the following principle types of mechanisms: solid state diffusion, reactions at surfaces and interfaces, and phase transformations. The final section of the course applies these principles to several relevant materials processing systems. Prerequisites: ENGN 0410, 0720, 1410 or equivalent.
Spr ENGN1420 S01 24871 T Th 9:00-10:20(01) (B. Sheldon)

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.
Spr ENGN1440 S01 24972 TTh 1:00-2:20(08) (N. Padture)

ENGN 1450. Properties and Processing of Electronic Materials
Focus on fundamental properties, processing, and characterization of electronic materials for microelectronics, large area, and thin film device applications. Processing Si into modern integrated circuits, e.g., VLSI, USLI, will be described in terms of materials science of unit processes (oxidation, lithography, diffusion, ion implantation, thin film deposition) used in device fabrication. Review relationship between properties of different materials classes (metals, semiconductors, insulators) and band structure. Concepts used to explain the operation of a p-n junction and simple MOS structures. Laboratory will focus on depositing materials via vapor phase synthesis methods and measuring fundamental electronic properties of materials using transport measurements.
Spr ENGN1450 S01 24872 MWF 1:00-1:50(06) (D. Paine)

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.
Fall ENGN1490 S01 16301 MWF 2:00-2:50(07) (K. Coulombe)

ENGN 1510. Nanoengineering and Nanomedicine.
Students in this course will develop a fundamental understanding of nanoeengineering 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 nanoeengineering 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 nanoeengineering research tools available on campus. This course is for engineering and science graduate students and advanced upper-level engineering undergraduates.
Fall ENGN1510 S01 16303 TTh 1:00-2:20(08) (A. Shukla)

ENGN 1560. Optics.
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.
Spr ENGN1560 S01 25044 MWF 12:00-12:50(05) (D. Mittleman)

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 16533 MWF 1:00-1:50(06) (P. Felzenszwalb)
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Description</th>
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<tbody>
<tr>
<td>ENGN 1580</td>
<td>Communication Systems</td>
<td>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&amp;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.</td>
</tr>
<tr>
<td>ENGN 1590</td>
<td>Introduction to Semiconductors and Semiconductor Electronics</td>
<td>An introduction to the physics of fundamental electronic processes that underlie the operation of semiconductor devices on a microscopic scale. Basic electronic properties of semiconductors and effects at interfaces heterogeneous media, such as pn junctions and hetero-structure barriers and quantum wells. These junctions, barriers and wells are used as building blocks for devices, focusing on bipolar and field-effect transistors. Modern trends in micro- and opto-electronic devices are discussed. A brief fabrication lab will introduce pn junction fabrication technology. Prerequisites: ENGN 0410 and 0510.</td>
</tr>
<tr>
<td>ENGN 1600</td>
<td>Design and Implementation of Digital Integrated Circuits</td>
<td>This course will cover digital design and implementation concepts required for successful tape-out of integrated circuits. The first part covers the fundamentals of Very Large-Scale Integration (VLSI) design, including transistor analysis, standard cell layout, and cell characterization techniques. The second part covers use of design automation tools to complete a full design to tape-out. In the second part, hardware design using Verilog will be first discussed, and then will follow with the use of techniques and tools: logic synthesis, circuit timing and power, and placement and routing. The class will feature a number of labs and a large design project.</td>
</tr>
<tr>
<td>ENGN 1610</td>
<td>Image Understanding</td>
<td>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.</td>
</tr>
<tr>
<td>ENGN 1620</td>
<td>Analysis and Design of Electronic Circuits</td>
<td>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.</td>
</tr>
<tr>
<td>ENGN 1630</td>
<td>Digital Electronics Systems Design</td>
<td>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 ( CPLDs and FPGAs), and VHDL. Extensive laboratory requirement. Not open to first year students; permission required for sophomores.</td>
</tr>
<tr>
<td>ENGN 1640</td>
<td>Design of Computing Systems</td>
<td>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.</td>
</tr>
</tbody>
</table>

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 elastic-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.
Fall ENGN1750 S01 16317 TTh 1:00-2:20(08) (D. Henann)

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 permission of instructor.
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 24877 MWF 11:00-11:50(04) (D. Harris)

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 optics for biomedical imaging. 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 College of Surgeons to be one of the most important new technologies of the 21st century. The course will span a range from the fundamentals of optical coherence tomography to highly applied, industrially relevant imaging modalities. Recommended prerequisites: Good knowledge of basic physics and electromagnetism concepts; proficiency in ENGN 0510 or PHYS 0470; experience with computer programming.
Spr ENGN1930B S01 25048 W 3:00-5:30(10) (D. Pacifi)

ENGN 1930D. Introduction to Power Engineering.
An introduction to the generation, distribution and use of electrical energy in three-phase balanced systems. Topics include: properties of balanced three-phase voltage and current lines; generators; transformers and transmission lines; induction motors; brushless DC motors; power semiconductor switches; and the properties of solar photovoltaic sources and microinverters. Laboratory project. Prerequisites: ENGN 0510 and 0520.
spr ENGN1930D S01 24873 MWF 1:00-1:50(06) (W. Patterson)

ENGN 1931A. Photovoltaics Engineering.
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 ENGN1931A S01 16538 M 7:00-9:40PM 'To Be Arranged'

Designing kinetic systems (i.e., systems requiring movement or motion) relies on both mechanical and electrical engineering. These systems include everything from mobile robots for rescue operation to electrically powered moving sculptures. Through a series of projects, students combine knowledge of electronic circuit design, sensors, actuators, motors, microcontrollers, control theory, and programming to build interactive art and robotic systems. Projects culminate in the design of a creative kinetic system that incorporates several of the principles learned in class. Some programming experience is helpful but not required. Prerequisites: ENGN 0040 and (ENGN 0520 or ENGN 1230 or ENGN 1630 or some hardware experience). Otherwise, seek instructor approval.
Spr ENGN1931B S01 25049 TTh 10:30-11:50(09) (R. Bahar)

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
ENGN 1931J. 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 ENGN1931JS01 16541 Th 4:00-6:30(04) (A. Nummikko)

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 recruit 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 24868 M 3:00-5:30(13) (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 16297 TTh 10:30-11:50(13) (I. 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 solutions to prevent recurrence or give management the skills to solve problems; and develop recommendations and action plans to ‘sell’ to the Board of Directors. Spr ENGN1931QS01 25060 TTh 10:30-11:50(01) (H. Anderson)

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 16546 TTh 2:30-3:50(12) (J. Clark) Spr ENGN1931TS01 25059 TTh 2:30-3:50(11) (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. Spr ENGN1931WS01 25061 TTh 1:00-2:20(08) (H. Anderson)

ENGN 1931Y. Control Systems Engineering.
Control Systems is an Engineering discipline that applies control theory to analyze and design systems with desired response behavior. The objective of this course is to introduce the student to the topic of feedback control design with applications on many diverse systems. The course will cover the fundamentals of classical control theory such as modeling, simulation, stability, controller design and digital implementation. It will also address basic aspects of state-space and modern control theory. The course is open to all Engineering majors and will make use of existing simulation packages such as Matlab/Simulink. Spr ENGN1931YS01 24874 MW 6:40-8:00PM (A. Zaki)

Independent Study in Engineering. Instructor permission required after submitting online proposal (https://docs.google.com/a/brown.edu/forms/d/1FAlpQLSeXzgX19sKcq7xrL9cS5jr4MD_NqFYeY70hn5Ib8aYy077MhqA/viewform). Section numbers vary depending on concentration. Please check Banner for the correct section number and CRN to use when registering for this course. Fall ENGN1970S01 16542 Th 4:00-6:30(04) (C. Briant)

Independent Study in Engineering. Instructor permission required after submitting online proposal (https://docs.google.com/a/brown.edu/forms/d/1FAlpQLSeXzgX19sKcq7xrL9cS5jr4MD_NqFYeY70hn5Ib8aYy077MhqA/viewform). Section numbers vary depending on concentration. Please check Banner for the correct section number and CRN to use when registering for this course. Fall ENGN1971S01 16543 Th 4:00-6:00(04) (C. Briant)

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 equations numerically: converting physical governing equations into 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 25063 TTh 1:00-2:20(08) (A. Peterson)

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
The primary objective of the course is to train students on tools, skills, and behaviors required for effective management of complex engineering, research, and business development projects. Although the course will be framed in the context of early-stage technology companies, the skills and principles will be applicable to businesses of any size and maturity. The course is organized around three actionable themes: project management, team management, and decision making.
Fall ENGN2125 S01 16887  T 3:00-5:50 (J. Harry)

ENGN 2150. Technology Entrepreneurship and Commercialization I.
ENGN 2150 and the spring ENGN 2160 form a sequence that develops the skills for technology-based entrepreneurship. It teaches creation of viable high-growth-potential new ventures from emerging science and technology. It is from emerging S&T that a high percentage of new jobs are created, both by existing large companies and through the formation of new companies. You will examine S&T for new opportunities, create novel product or service concepts from these sources and determine whether these concepts truly represent new business opportunities. Pedagogy is a combination of lectures and "experiential learning", with work undertaken as a two-semester project. Enrollment limited to 30 graduate students in the IMEE program.
Fall ENGN2150 S01 16328  Th 3:00-5:50 (J. Harry)

ENGN 2160. Technology Entrepreneurship and Commercialization II.
ENGN 2160 and the prerequisite fall course 2150 form a course sequence that develops the knowledge of, and embeds the skills for, technology-based entrepreneurship. While 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. Prerequisite: ENGN 2150. Enrollment limited to 30 graduate students in the IMEE program.
Spr ENGN2160 S01 25071  M 3:00-5:50 "To Be Arranged"

ENGN 2180. Globalization Immersion Experience and Entrepreneurship Laboratory.
In this course, students will gain a better understanding of the political, social and cultural dynamics that influence entrepreneurial enterprises in different world regions. Meetings will be arranged with high technology companies and their venture arms, academic incubators, investment professionals, legal professionals, government officials, entrepreneurs, and other university faculty and students. The semester becomes a global entrepreneurship and innovation "laboratory" where students experience and take part in guest lectures from experts working in other countries. Classroom discussions, student presentations, papers and readings will be used to focus and further understand the globalization dynamic and its relationship to entrepreneurship. Prerequisite: ENGN 2110. Enrollment limited to 30 graduate students in the PRIME program.
Spr ENGN2180 S01 24834  T 3:00-5:50 (B. Ozkazanc-Pan)

ENGN 2210. Continuum Mechanics.
Fall ENGN2210 S01 16322  MWF 12:00-12:50(15) (H. Kesari)

Spr ENGN2220 S01 24891  MWF 10:00-10:50(03) (D. Henann)

Fall ENGN2340 S01 16547  MW 4:00-5:15 (Y. Bazilevs)
Spr ENGN2340 S01 24890  MW 8:30-9:50(02) (Y. Bazilevs)

ENGN 2370B. Topics in Solid and Structural Mechanics.
Devoted to one or more advanced topics in solid and structural mechanics not covered in detail by the regular courses, such as: numerical methods in solid mechanics, theory of optimal design, shell structures and instability, or other topics of interest to the staff or visitors.
Fall ENGN2370B S01 16548  MWF 1:00-1:50(06) (K. Kim)

ENGN 2410. Thermodynamics of Materials.
Fall ENGN2410 S01 16323  MW 8:30-9:50(01) (B. Sheldon)

ENGN 2420. Kinetic Processes and Mechanisms in Materials Science.
Continuum and atomistic descriptions of diffusion in solids. Reactions involving surfaces and interfaces, including evaporation, adsorption, grain growth, and coarsening. Phase transformation kinetics, including nucleation, growth, solidification, spinodal decomposition, and martensitic transformations. Analysis of systems with multiple kinetic mechanisms (typical examples include oxidation, crystal growth, and sintering). Prerequisite: background in basic thermodynamics. Recommended: ENGN 1410 or 2410 or equivalent.
Spr ENGN2420 S01 24893  MWF 8:30-9:50(02) (E. Chason)

ENGN 2430. Deformation Behavior of Materials.
Linear elasticity as applied to isotropic and anisotropic materials; yield criteria including Von Mises, Tresca, Mohr-Coulomb, and Hill. Plastic deformation and slip. Dislocation theory. Mechanisms of hardening. Microstructural models of ductile, intergranular, and cleavage fracture. Toughening mechanisms. Creep. Fatigue. Prerequisites: ENGN 0410 and ENGN 1440 or equivalent.
Spr ENGN2430 S01 24894  TTh 9:00-10:20(01) (S. Kumar)

ENGN 2450. Exchange Scholar Program.
Fall ENGN2450 S01 15477  Arranged "To Be Arranged"

ENGN 2502. 3D Photography.
In 3D Photography, cameras and lights are used to capture the shape and appearance of 3D objects represented as graphical models for applications such as computer animation, game development, electronic commerce, heritage preservation, reverse engineering, and virtual reality. This course covers 3D capture techniques and systems, surface representations and data structures, as well as methods to smooth, denoise, edit, compress, transmit, simplify, and optimize very large polygonal models. Instructor permission required.
Spr ENGN2502 S01 25064  MWF 9:00-9:50(02) (G. Taubin)
This course covers fundamental topics in pattern recognition and machine learning. We will consider applications in computer vision, signal processing, speech recognition and information retrieval. Topics include: decision theory, parametric and non-parametric learning, dimensionality reduction, graphical models, exact and approximate inference, semi-supervised learning, generalization bounds and support vector machines. Prerequisites: basic probability, linear algebra, calculus and some programming experience.
Spr ENGN2520 S01 25065 TTh 2:30-3:50(11) (P. Felzenszwalb)

An introduction to the basics of linear, shift invariant systems and signals and doing real processing of signal on a digital computer. Quantization and sampling issues are introduced. Discrete time and DFT properties, fast DFT algorithms, and spectral analysis are discussed. IIR and FIR digital filter design is a focus; stochastic and deterministic signals are introduced. MATLAB exercises are a significant part of the course.
Fall ENGN2530 S01 16324 MWF 11:00-11:50(16) (H. Silverman)

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.
Fall ENGN2625 S01 16549 MW 10:00-11:20 (K. Toussaint)

ENGN 2770. Atomic Reaction Engineering.
Covers the principles of operation of heterogeneous catalysis and advanced reaction engineering with an emphasis on catalysis theory. Includes electronic structure calculations, linear scaling relations, free energy relations, surface reactivity, rate theory, and electrocatalytic concepts. Applications of study in this course will focus on catalysts for energy conversion. Students should have a background in chemical reactions and thermodynamics.
Fall ENGN2770 S01 16551 TTh 10:30-11:50(13) (A. Peterson)

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 16326 MWF 2:00-2:50(07) (J. Ault)

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 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 24896 F 3:00-5:30(15) (A. Tripathi)

ENGN 2910Q. Chemically Reacting Flow.
This course focuses on problems in chemical engineering that involve both transport and chemical reaction. The emphasis will be on numerical methods for practical problems. The students will learn to use the open-source code Cantera. Examples will draw from combustion chemistry, porous media, and electrochemistry.
Spr ENGN2910Q S01 24979 TTh 1:00-2:20(08) (F. Goldsmith)

ENGN 2910S. Cancer Nanotechnology.
This course will integrate engineering and biomedical approaches to diagnosing and treating cancer, particularly using nanotechnology and BioMEMS. Topics will include the extracellular matrix and 3D cell culture, cancer cell invasion in microfluidic devices, heterotypic interactions, cancer stem cells and the epithelial-mesenchymal transition, angiogenesis and drug targeting, circulating tumor cells and biomarker detection, as well as molecular imaging and theranostics. Recommended coursework includes ENGN 1110 (Transport and Biotransport), ENGN 1210 (Biomechanics) and ENGN 1490 (Biomaterials) or equivalents.
Fall ENGN2910S S01 16327 MWF 11:00-11:50(16) (L. Wong)

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) entrapment 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 25069 MWF 9:00-9:50(02) (K. Pennell)

ENGN 2911R. Analytical Modeling for Biomechanical and Biomedical Systems.
Students will develop fundamental understanding of important statistical, physical and mathematical modeling methods for biomedical engineering applications. Topics covered will include factorial design and analysis of experiments, modeling of infectious disease spread and dynamics, drug delivery, and cell and tissue mechanics. Students will learn statistical methods, factorial design of experiments, transport models, numerical methods, nonlinear and time dependent response, soft material modeling and applications of these methods in the biomedical systems. Students will also gain experience in critical analysis of scientific literature and effective oral and written communication. Prerequisite: APMA 0330 or equivalent.
Fall ENGN2911R S01 16552 TTh 1:00-2:20(08) (V. Srivastava)

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 16325 MW 5:40-7:00 (G. Taubin)

ENGN 2912F. Soft Matter.
This course is a special topics graduate course on soft matter, treating polymers, liquid crystals, surfactants, and colloids. The different topics will be unified by a common approach using statistical mechanics.
Spr ENGN2912F S01 25067 TTh 10:30-11:50(00) (T. Powers)

ENGN 2912K. Mixed-Signal Electronic Design.
ADCs, DACs, switch-capacitor circuits, noise and distortion. Circuit simulation and system design projects. Examples will be used from various biological sensing and instrumentation applications and recent scientific literature. Prerequisite: ENGN 1620 and 1630, or instructor permission. Enrollment limited to 20.
Fall ENGN2912K S01 16550 TTh 9:00-10:20(02) (J. Rosenestein)

ENGN 2912R. Implantable Devices.
This course will expose students to topics across the electrical and biological sciences through lecture, design, and laboratory exercises. Students will learn basic governing concepts of implantable device design, including those of tissue interfaces, power delivery, data transmission, hermetic packaging and biocompatibility, and in vivo evaluation through appropriate animal models including design of surgical approach. Teams will be formed early in the course and maintained throughout the semester. Successful teams will invent, design, build, and implant their unique device. Teams will have access and exposure to the Technology Ventures Office through guest lecture and individual meetings.
Spr ENGN2912R S01 25073 MWF 1:00-1:50(06) (D. Borton)

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
ENGN 2912W. Two Phase Flows.
Introduction of two-phase flows. Flow maps. Conservation Equations. Two-phase homogenous flows. Drift flux models. Interfacial dynamics. Motion of single particles, drops or bubbles. Bubble growth and collapse. Cavitation. Dusty gases. Granular flows. Sprays. Th student who successfully completes this course will be able to understand the principles to two phase fluid mechanics; be able to start reading specialized literature of the subject; recognize the areas of active research; and develop research projects in this general area. Prerequisites: Advanced undergraduate fluid mechanics (e.g., ENGN 1860); graduate fluid mechanics course (e.g., ENGN 2810). Spr ENGN2912W/S01 25068 TTh 10:30-11:50(09) (R. Zenit)

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 24955 M 3:00-5:30(13) (A. Van De Walle)

ENGN 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 ENGN2970 S01 15478 Arranged "To Be Arranged" Spr ENGN2970 S01 24278 Arranged "To Be Arranged"

ENGN 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.

ENGN 2990. Thesis Preparation.
For graduate students who have met the residency requirement and are continuing research on a full time basis. Fall ENGN2990 S01 15479 Arranged "To Be Arranged" Spr ENGN2990 S01 24279 Arranged "To Be Arranged"

English

ENGL 0100Q. How Poems See.
What makes poems and pictures such powerful forms of life? Why do pictures have so much to tell us? How do we see things in words? How do graphic images, optical images, verbal images, and mental images together constitute ways of understanding the world? Looking at poems and images from Giotto and Shakespeare, Wordsworth and Dickinson and Turner through such modern poets and painters as Stevens, Ashbery, Warhol and Heijinian, we will study sensory and symbolic images, the uses and dangers of likeness, and the baffling confluence of concrete and abstract, literal and figurative, body and mind, matter and spirit. Spr ENGL0100Q/S01 24907 MWF 10:00-10:50(03) (S. Foley)

ENGL 0100U. Serial Fictions.
A study of serial and serialized fictional narratives from the nineteenth century the present-- dime novels, serial genre fictions, literary novels comprised of chapters initially published as short stories, radio and film serials, television programs old (The Naked City, Hawaii-Five 0), newer (The Wire, Sex in the City), and new (Americans), podcasts, and video games (Legend of Zelda). Fall ENGL0100U/S01 16299 MWF 1:00-1:50(06) (D. Nabers)

ENGL 0100V. Inventing Asian American Literature.
What insights can literature provide into the complicated workings of race in America? What role can the invention of a literary tradition play in illuminating and rectifying past and present injustices? We explore these questions by examining how the idea of an Asian American literary tradition came into being and by reading influential works that have become part of its canon. Students should register for ENGL 0100V S01 and may be assigned to conference sections by the instructor during the first week of class. Fall ENGL0100V/S01 16305 MWF 2:00-2:50(07) (D. Kim)

ENGL 0101A. Independence and Modern Literature.
Words like "freedom" and "independence" are central to modern global history. This course introduces students to modernist and postcolonial poetry and fiction, exploring individual and collective self-determination. We address questions of aesthetic autonomy and form, and collective aspirations across disparate lines of nation, race, gender, and sexuality. Readings from Achebe, Bulawayo, Conrad, Eliot, Hurston, Joyce, Kincaid, Lamming, Walcott, and Woolf. Students should register for ENGL 0101A S01 and may be assigned to conference sections by the instructor during the first week of class. Fall ENGL0101A/S01 16304 MWF 11:00-11:50(16) (T. Katz)

ENGL 0101B. Earth Poetics: Literature and Climate Change.
Climate change is one of the most pressing issues of our time and calls for new strategies of collective action, but also for new ways of conceptualizing and attending to the changing Earth. This course will address how literary texts can help us develop our understanding of environmental change by attending to the material entanglements between nature and culture. Spr ENGL0101B/S01 24822 TTh 2:30-3:50(11) (A. Smailbegovic)

ENGL 0101C. America Dreaming.
What ever happened to the American Dream? How is American literature a series of dreaming--fantasy, utopia, dystopia, antislavery, 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? Spr ENGL0101C/S01 24824 MWF 1:00-1:50(06) (P. Gould)

ENGL 0105C. The Medieval King Arthur.
Where did stories of King Arthur come from and how did they develop in the Middle Ages? We will read the earliest narratives of King Arthur and his companions, in histories and romances from Celtic, Anglo- Norman, and Middle English sources, to examine Arthur’s varying personas of warrior, king, lover, thief. Enrollment limited to 19 first-year students. Fall ENGL0105C/S01 16207 TTh 9:00-10:20(02) (E. Bryan)

ENGL 0105F. Hawthorne and James.
An introduction to a pair of writers whose work continues to shape our understanding of American literature and American identity. Focusing on much of their most important work, our aim will be to understand how their conceptions of the relationship between writing and history both complicate and complement each other. Limited to 19 first-year students. Fall ENGL0105F/S01 16208 MWF 11:00-11:50(16) (S. Burrows)

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 24825 W 3:00-5:30(10) (T. Bewes)

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
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, Brontë, Coetzee, Conrad, Faulkner, Ishiguro, Morrison, Naipaul, Rushdie, Salih, Shelley. Limited to 19 first-year students.
Fall ENGL0150XS01 16209 Th 4:00-5:30(17) (O. George)

ENGL 0150Y. Brontë and Brontëism.
The novels of Anne, Charlotte, and Emily Brontë alongside works (fiction and film) influenced by or continuing their powerful (and competing) authorial visions: Wide Sargasso Sea (Rhys), Rebecca (Hitchcock), The Piano (Campion), and Suspisia (Argento). Among other questions, we will discuss the role of Romanticism, feminism, the bodily imaginary, colonialism, and genre. Enrollment limited to 19 first-year students.
Fall ENGL0150YS01 16269 W 3:00-4:50(17) (B. Parker)

ENGL 0151B. How to Do Things with Books.
What can one do with a book? Read a novel, sure, but also cook a fabulous meal, join a movement, or reimagine ways of being. Each class will focus on old or rare materials in the John Hay Library and throughout Providence. We'll explore the nature of the book through discussion and hands-on activities such as letterpress printing and zine-making. Enrollment limited to 19 first-year students.
Fall ENGL0151BS01 16286 MWF 10:00-10:50(14) (J. Egan)

ENGL 0200S. “Killing Shakespeare”: Three Plays and their Afterlives.
Do adaptations of Shakespeare “kill” his texts? In this course, we will explore three plays—Othello, The Tempest, and Hamlet—with some of their most prominent adaptations. We will focus on these adaptations consider important political questions of their times in relation to Shakespeare. Authors/directors include: Lawrence Olivier, Aime Cesaire, Jawad Al-Asadi, Vishal Bharadwaj, and Julie Taymor. Enrollment limited to 17.
Fall ENGL0200SS01 16309 MWF 12:00-12:50(15) (G. Pidur)

Can poetry and popular music transform our understanding of politics? This class examines how poetry and song as representational forms change how we see each other and the world. We also consider non-representational dimensions of lyric, such as sound. Readings and music from key historical moments in the US may include Claudia Rankine, Lucille Clifton, Bob Dylan, and Kendrick Lamar. Enrollment limited to 17. 
Fall ENGL0200TS01 16334 MWF 2:00-3:00(7) (K. Preston)

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 ENGL0310AS01 16210 MWF 10:00-10:50(14) (J. Kuzner)

ENGL 0510G. New Worlds, New Subjects: American Fiction at the Dawn of the Twentieth Century.
In 1900, the historian Henry Adams declared, Americans lived in a world so radically transformed that “the new American … must be a sort of God compared with any former creation of nature.” This new world had many progenitors: Darwin’s theory of evolution; Nietzsche’s theory of the will; Freud’s theory of the unconscious; the rise of the mass media; the industrial production line; the triumph of consumerism; mass immigration; Jim Crow; the New Woman. This class reads works of fiction from the turn-of-the-century in the context of these transformations. Writers include Freud, Nietzsche, Stephen Crane, Henry James, and Edith Wharton.
Spr ENGL0510GSCS01 24909 Th 1:00-2:20(8) (S. Burrows)

ENGL 0511H. Late Romantics.
An introduction to the varied work of canonical and non-canonical writers often described as British second-generation or late Romantics: Keats, the Shelleys, Byron, Clare, de Quincey, Hemans, Austen. We will explore what lateness constitutes for these authors as a political, aesthetic, and ethical category, and consider how it informs the kind of distinctly “Romantic” work that characterizes their writings. Particular emphasis on close readings of poetry and theoretical texts, as well as excursions into late nineteenth-century authors.
Spr ENGL0511HS01 24910 MWF 11:00-11:50(04) (J. Khalip)

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 ENGL0710NS01 16211 MWF 2:00-2:50(07) (S. Burrows)

ENGL 0710Q. American Literature in the Era of Segregation.
This course examines how American literature intersects with the legal, ethical, and racial discourses that defined the system of racial segregation. In doing so, the course will assess the ways that literary style and genre became inseparable from the category of segregation. Authors include Mark Twain, Nella Larsen, William Faulkner, and Richard Wright.
Spr ENGL0710QSCS01 24826 Th 10:30-11:50(09) (R. Murray)

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 ENGL0710XS01 16195 MWF 11:00-11:50(16) (K. Quasie)

ENGL 0710Z. American Literature and the Constitution.
A study of the interactive relations between US literary constitutional and literary history, with a special emphasis on how American constitutional discourses and American writers have framed and conceived of the interplay between civil rights, racial equality, and economic privilege.
Spr ENGL0710ZS01 24827 Th 1:00-2:20(08) (D. Naber)

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 ENGL0900S01 16246 TTh 9:00-10:20(02) "To Be Arranged"
Fall ENGL0900S02 16248 MWF 9:00-9:50(01) (K. Schapra)
Fall ENGL0900S03 16249 MWF 9:00-9:50(01) (L. Stanley)
Fall ENGL0900S04 16250 MWF 10:00-10:50(14) "To Be Arranged"
Fall ENGL0900S05 16251 MWF 12:00-12:50(15) "To Be Arranged"
Fall ENGL0900S06 16252 MWF 1:00-1:50(06) "To Be Arranged"
Fall ENGL0900S07 16253 MWF 2:00-2:50(07) "To Be Arranged"
Fall ENGL0900S08 16254 MWF 3:00-3:50(08) "To Be Arranged"
Spr ENGL0900S01 24841 MWF 10:00-10:50(03) "To Be Arranged"
Spr ENGL0900S02 24842 TTh 9:00-10:20(01) "To Be Arranged"
Spr ENGL0900S03 24843 MWF 2:00-2:50(07) "To Be Arranged"
Spr ENGL0900S04 24844 MWF 11:00-11:50(04) "To Be Arranged"

For up-to-date course information please visit Courses@Brown.edu (https://cabs.brown.edu).
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 related subgenres. May serve as preparation for any 1000-level nonfiction writing course. Writing sample may be required. Enrollment limited. Banner registrations after classes begin require instructor approval. S/NC.
Fall ENGL0930 S01 16464 MW 8:30-9:50(01) "To Be Arranged"
Fall ENGL0930 S02 16465 TTh 10:30-11:50(13) (C. DeBoer-Langworthy)
Fall ENGL0930 S03 16466 MWF 10:00-11:50(14) (E. Hipchen)
Fall ENGL0930 S04 16467 TTh 2:30-3:50(12) (J. Readey)
Fall ENGL0930 S05 16468 TTh 9:00-10:20(02) (L. Stanley)
Fall ENGL0930 S06 16469 MWF 1:00-1:50(06) "To Be Arranged"
Spr ENGL0930 S01 24919 MW 8:30-9:50(02) "To Be Arranged"
Spr ENGL0930 S02 24920 TTh 9:00-10:20(01) (C. DeBoer-Langworthy)
Spr ENGL0930 S03 24921 MWF 9:00-9:50(02) "To Be Arranged"
Spr ENGL0930 S04 24922 TTh 10:30-11:50(09) "To Be Arranged"
Spr ENGL0930 S05 24923 TTh 2:30-3:50(11) (K. Schapira)
Spr ENGL0930 S06 24924 TTh 9:00-10:20(01) (M. Stewart)
Spr ENGL0930 S07 24925 TTh 10:30-11:50(09) (E. Hipchen)

ENGL 1030A. The Thoughtful Generalist.
This "ONLINE" section of "ENGL1030: Critical Reading and Writing II: Research" will prepare you for academic and real-world discourse. In Canvas, you will discuss essays demonstrating deep research distilled into engaging intellectual journey. You will research and revise four explanatory, analytical, persuasive essays, using varied sources to explore subjects or issues of your choice. Mandatory peer reviews and conferences ONLINE. Enrollment limited to 17. Banner registrations after classes begin require instructor approval. S/NC.
Spr ENGL1030AS01 24845 Arranged (E. Taylor)

ENGL 1030C. Writing Science.
This course explores how science, as an academic way of thinking and a method, affects our critical thinking and expression of culture. Readings examine the various dialects of scientific discourse. Students write three major research essays on self-selected scientific topics from both within and outside their fields of study. Enrollment limited to 17. Writing sample may be required. Banner registrations after classes begin require instructor approval. S/NC.
Fall ENGL1030CS01 16236 TTh 2:30-3:50(12) (C. DeBoer-Langworthy)

ENGL 1030F. The Artist in the Archives.
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 pronged approach to the problem: embedding students in archives at both 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.
Fall ENGL1030FS01 16237 MWF 11:00-11:50(16) (M. Stewart)

ENGL 1030G. Backstory.
Everything has a backstory—everything, every object, every idea. In this workshop-based course we will explore the archives at Brown and RISD to write three research essays for general audiences. You can expect readings, looking at how authors like David Foster Wallace, John McPhee and Eula Biss structure their pieces, workshops and in-class writing prompts to get you going. Enrollment limited to 17. Writing sample may be required. Banner registrations after classes begin require instructor approval. S/NC.
Fall ENGL1030GS01 16238 TTh 1:00-2:20(08) "To Be Arranged"

ENGL 1050A. Narrative.
This course offers a broad exploration of the many kinds of essays you can write in creative nonfiction. We 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. Writing sample required. Banner registrations after classes begin require instructor approval. S/NC.
Spr ENGL1050AS01 24846 MWF 12:00-12:50(05) "To Be Arranged"

ENGL 1050G. Journalistic Writing.
This course, taught by a Pulitzer Prize-winning winner, teaches students how to report and write hard news and feature stories. Students learn to gather and organize material, develop in-depth interviewing techniques, use public records to report stories and become better observers of everyday life. The first half of the semester focuses on hard news and investigative reporting – crime, government and court news. The second half is devoted to feature writing – profiles and the art of narrative storytelling. Class list will be reduced to 17 after writing samples are reviewed. Banner registrations after classes begin require instructor approval. S/NC.
Fall ENGL1050CS01 16256 TTh 10:30-11:50(13) "To Be Arranged"
Fall ENGL1050GS02 16257 TTh 2:30-3:50(12) "To Be Arranged"

ENGL 1050H. Journalistic Writing.
This course teaches students how to report and write hard news and feature stories for newspapers and online. Students learn to gather and organize material, develop interviewing techniques, and hone their writing skills – all while facing the deadlines of journalism. The first half of the semester focuses on “hard” news: issues, crime, government, and courts. The second half is devoted to features, profiles, and narrative story telling. Writing sample required. Class list will be reduced to 17 after writing samples are reviewed in first week of classes. Banner registrations after classes begin require instructor approval. S/NC.
Spr ENGL1050H-S01 24847 MWF 8:30-9:50(02) "To Be Arranged"

ENGL 1050P. Reframing Race in Art Writing.
This seminar will consider how contemporary writers and critics respond to art that directly addresses race and challenges institutional power. We will discuss past and recent controversies involving race and representation in exhibitions and examine the relationships between artists, museums and other art institutions, and public audiences. We will consider how writing about arts and culture can advance public discourse about race, equity, and justice. Enrollment limited to 17. No pre-requisites. Writing sample required. Instructor permission required. Banner registration required.
Fall ENGL1050PS01 16239 MWF 12:00-12:50(15) "To Be Arranged"

ENGL 1140E. Writing for Activists.
How can writing support and further change? In this course students will practice grant applications, budget narratives, mission and strategy statements, press releases, position papers, op-eds, and other writing strategies with practical application in activist work. We’ll read examples and theoretical grounding, and guest speakers will introduce us to writings and needs specific to a range of fields. 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. Instructor permission required. S/NC.
Spr ENGL1140E S01 24848 W 3:00-5:30(10) (K. Schapira)

ENGL 1160A. Advanced Feature Writing.
For the advanced writer. Nothing provides people with more pleasure than a “good read.” This journalism seminar helps students develop the skills to spin feature stories that newspaper and magazine readers will stay with from beginning to end, both for print and on-line publications. Students will spend substantial time off-campus conducting in-depth interviews and sharpening their investigative reporting skills. The art of narrative storytelling will be emphasized. Prerequisite: ENGL1050G or 1050H, or published clips submitted before the first week of classes. Class list reduced to 17 after writing samples are reviewed. Banner registrations after classes begin require instructor approval. S/NC.
Spr ENGL1160AS01 24849 M 3:00-5:30(13) "To Be Arranged"
ENGL 1180B. Digital Nonfiction.
In this class, we will join the host of other artists, activists, and writers that have used Twitter bots, iPhone apps, virtual reality experiences, and more to tell compelling stories. No previous digital writing experience is necessary, however, as an advanced creative nonfiction class. Digital Nonfiction requires students to have completed ENGL 0930 or any 1000-level nonfiction writing course. Enrollment is limited to 17. Instructor permission required. S/NC.
Fall ENGL1180B S01 16240 M 3:00-5:30(05) (M. Stewart)

ENGL 1180C. Advanced Creative Nonfiction: Writing with Food.
This course examines writing about food and how writing affects food and food culture. We will explore the relationship of food to the pen through reading classic texts, writing in and out of class, guest lectures, and touring culinary archives. The goal is to polish personal voice in menus, recipes, memoir, history, reportage, and the lyric essay. 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.
Spr ENGL1180CS01 24850 TTh 1:00-2:20(08) (C. DeBoer-Langworthy)

ENGL 1180P. Further Adventures in Creative Nonfiction.
For the advanced writer. A workshop course for students who have taken ENGL 0930 or the equivalent and are looking for further explorations of voice and form. Work can include personal essays, literary journalism and travel writing. Readings from Ian Frazier, Joan Didion, David Sedaris, John McPhee and others. 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 16241 TTh 10:30-11:50(13) 'To Be Arranged'

ENGL 1180V. Asian American Narrative.
This course considers themes, forms, and contexts of Asian American narratives. We will examine diverse representations of Asian American experience and explore the questions these texts raise about race and ethnicity; self-invention and identity; and visibility and representation. We’ll consider how Asian American authors have used writing to reclaim agency, preserve cultural memory, and redress past and present injustice. Prerequisite: ENGL0930 or any 1000-level nonfiction writing course. Writing sample required. Class list will be reduced to 17 after writings 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.
Spr ENGL1180VS01 24851 MWF 12:00-12:50(05) 'To Be Arranged'

ENGL 1180W. Writing About History.
This course introduces students to the practice of writing about history, including crafting news, features, and memoir pieces. Readings include works by Jill Lepore, Ta-Nehisi Coates, David McCullough, Iris Chang, Henry Louis Gates Jr., John Hersey, W.E.B. Du Bois, and others. Students will strengthen skills in primary and secondary research, interviewing, writing, and revision, utilizing Brown’s libraries and other archives. Prerequisite: ENGL 0930 or any 1000-level nonfiction writing course. Class list 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.
Spr ENGL1180WS01 24840 Th 4:00-6:30(17) (J. Readey)

ENGL 1190U. Nature Writing.
This course seeks to develop your skills as a sensitive reader and writer of the natural world. You will build a portfolio of revised work through a process of workshops, tutorials, and conferences, and engage in discussion of a range of written and visual narratives with reference to their personal, political, and ecological contexts. 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. S/NC.
Spr ENGL1190US01 24853 T 4:00-6:30(16) 'To Be Arranged'

ENGL 1190X. Nonfiction Now.
Nonfiction Now introduces students to contemporary nonfiction writing through in-person exposure to professional writers, who will visit the course to deliver a craft lecture, read from their latest work and discuss the labor that goes into maintaining a professional writing life. Students will be expected to read the work of the visitor and produce creative work in response. Prerequisite: ENGL 0930 or any 1000-level nonfiction writing course. Class list will be reduced to 30 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.
Spr ENGL1190XS01 24854 Th 4:00-6:30(17) (M. Stewart)

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 1310A. Firing the Canon: Early Modern Women's Writing.
Rediscovery and reconsideration of works by early modern women have changed the literary canon; these once-neglected works are becoming mainstream, and they are changing the way we read 'traditional' texts. The reading in this course includes poetry, letters, drama, essays, fiction, and life-writing by authors including Lanyer, Wroth, Cavendish, Behn, Manley, Haywood, Scott, and Montagu.
Spring ENGL1310A S01 24905 TTh 1:00-2:20(08) (M. Rabb)

ENGL 1310V. Chaucer: The Canterbury Tales.
Middle English narratives by Geoffrey Chaucer's band of fictional pilgrims, read in their 14th-century historical and literary contexts. Prior knowledge of Middle English not required. Not open to first-year students. S/NC.
Fall ENGL1310VS01 16212 TTh 1:00-2:20(08) (E. Bryan)

ENGL 1361A. 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.
Fall ENGL1361A S01 16196 M 3:00-5:30(05) (J. Kuzner)

ENGL 1361M. "Evil Plays: Shakespeare and Contemporaries".
Coleridge postulated of the villainous lago a 'motiveless malignancy.' That is, the evil he performs exceeds any reason provided. We'll consider the question of evil in Shakespeare's tragedies Titus Andronicus (which pushes the logic of revenge past its breaking point); Macbeth; Othello; King Lear. Because Renaissance drama is more than Shakespeare, we'll also consider spectacularizations of evil in his contemporaries Ford, Webster, and Middleton. Not open to first-year students. Instructor permission required.
Spr ENGL1361MS01 24828 TTh 2:30-3:50(11) (R. Rambuss)

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 1511Z. The Art of the Novel: Henry James
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. Enrollment limited to juniors and seniors.
Spr ENGL1511Z S01 24629 TTh 10:30-11:50(09) (B. Parker)

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.
Spr ENGL1560AS01 24903 Th 4:00-5:30(17) (E. Rooney)

ENGL 1561G. Swift, Pope, Johnson.
The course provides in-depth study of three major writers of the eighteenth century and will include cultural contexts. Readings include Gulliver's Travels, The Rape of the Lock, and Rasselas. Enrollment limited to 20.
Spr ENGL1561G S01 24904 W 3:00-5:30(10) (M. Rabb)

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 16310 TTh 2:30-5:30(12) (J. Khalip)

ENGL 1561Z. American Renaissance.
A course focusing on the writings of the Transcendentalists, reform literature, antislavery and Native American and Indigenous rights. The subjects of history, the capitalist market, Nature, and the development of modern authorship and literary professionalism. Emerson, Thoreau, Douglass, Alcott, as well as Harriet Wilson, William Apess, and magazine writing.
Fall ENGL1561ZS01 16198 F 3:00-5:30(11) (P. Gould)

Tutorial instruction oriented toward a literary research topic. Section numbers vary by instructor. Instructor's permission required.
Fall ENGL1580S01 16213 MWF 2:00-2:50(07) (O. George)

ENGL 1710K. Literature and the Problem of Poverty.
This course explores poverty as a political and aesthetic problem for American writers. Examines the ways that writers have imagined the poor as dangerous others, agents of urban decay, bearers of folk culture, and engines of class revolt. Authors include Stephen Crane, William Faulkner, Zora Neale Hurston, and Richard Wright.
Fall ENGL1710KS01 16336 MWF 10:00-10:50(14) (R. Murray)

ENGL 1710D. Reading New York.
This course explores narratives of New York City in a variety of genres, from the early 20th century to the present. Topics include immigration, mobility, cosmopolitanism and the neighborhood, cruising, gentrification, post-9/11. Work by John Dos Passos, Nella Larsen, E.B. White, Jane Jacobs, Frank O'Hara, Samuel Delany, Patti Smith, Nan Goldin, Ernesto Quiones, Teju Cole. Prerequisite: one previous literature course.
Fall ENGL1710DS01 16199 MWF 1:00-1:50(08) (T. Katz)

ENGL 1711N. Monsters in our Midst: The Plantation and the Woods in Trans-American Literature.
This course focuses on how literary and visual culture grappled with land as a topographic entity in relation to race, gender, and time. Students read literature about the Caribbean and parts of the U.S., produced from the 19th century to the present. Readings include Marlon James's The Book of Night Women and Jean Rhys's Wide Saragasso Sea.
Spr ENGL1711NS01 24911 MWF 10:00-10:50(03) (D. Ramirez-D'Oleo)

ENGL 1711P. "We have not yet heard enough, if anything, about the female gaze": Contemporary Writing Not by Men.
The concept of the "male gaze" has been central to feminist critiques of cinema. In developing the concept, Laura Mulvey refused to posit a corrective "female gaze" — which makes Maggie Nelson's remark about the female gaze in literature all the more surprising. This course discusses experimental writing primarily by women through the proposition that, without the male gaze, writing has the potential to be an "astonishing equalizer." Writers include Cusk, Fitzgerald, Gladman, Quin, Z. Smith, Spark, S. Hartman.
Spr ENGL1711PS01 24830 TTh 9:00-10:20(01) (T. Bewes)

ENGL 1711Q. Poetic Modernisms: Now!
This course is a survey of modernist poetry that explores how key works by figures such as Langston Hughes, Gertrude Stein, Ezra Pound, William Carlos Williams, and Marianne Moore have continued to shape poetic forms and possibilities throughout the twentieth century and into the contemporary moment.
Spr ENGL1711QCS01 24831 TTh 9:00-10:20(01) (A. Smallbegovic)

ENGL 1761E. Blackness and Being.
Through reading criticism, theory, literature, we will think about the representational, aesthetic, and, philosophical (ontological, epistemological, ethical) questions that shape blackness as a conceptual notion. Our study will think through feminist and queer studies, as well as through diaspora and American and ethnic studies, and will consider the historical trajectory of various critical turns in theorizing (literary) blackness. Enrollment limited to 20 juniors and seniors. Instructor permission required. Class list will be finalized after the first day of classes. Please email the professor to add your name to the potential roster.
Fall ENGL1761ES01 16337 M 3:00-5:30(05) (K. Quasie)

ENGL 1761F. Toni Morrison.
This course is an advanced introduction to the oeuvre of Nobel Laureate Toni Morrison. Reading her novels and nonfiction, we investigate concerns that shaped our world in the last century and haunt the current one, foregrounding Morrison's writing as a key site of trouble and of transformation.
Fall ENGL1761FS01 16692 TTh 1:00-2:20(08) (A. Abdur-Rahman)

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.
Fall ENGL1780S01 16214 TTh 10:30-11:50(13) (P. Armstrong)

For up-to-date course information please visit Courses@Brown.edu (https://cabs.brown.edu).
ENGL 1900Y. Medieval Manuscript Studies: Paleography, Codicology, and Interpretation.
How do you read a medieval manuscript? This course teaches hands-on methodologies for deciphering the material text, including palaeography (history of scripts) and codicology (archeology of the book); contemporary models of interpreting scribal texts, including editorial theory and analysis of readers' reception; and medieval concepts of textuality and interpretation, including medieval theories of authorship and the arts of memory. Prior course work in Middle English or Latin or other medieval language recommended. Not open to first-year students. Enrollment limited to 20. Instructor permission required.
Spr ENGL1900YS01 24912 M 3:00-5:30(13) (E. Bryan)

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 ENGL1901HS01 16693 W 3:00-5:30(17) (R. Rambuss)

ENGL 1950G. Reading Narrative Theory.
Narrative is a powerful category of analysis spanning genres, historical periods, media forms, and the distinction between the "fictional" and the "real." This course examines major narrative theorists of the twentieth and twenty-first centuries. We will focus on literary examples, such as theories of the folktale and novel, and scholarship that interrogates the work of narrative in historiography, in cinema and television, and in extra-literary contexts (in the struggle of political campaigners to "control the narrative" or debates on narrative in gaming, medical research, law, and theory itself). Limited to 20 senior English concentrators. Others admitted by instructor permission only.
Fall ENGL1950GCS01 16215 W 3:00-5:30(17) (E. Rooney)

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 15 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 16216 Th 4:00-6:30(04) (P. Armstrong)

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.
Fall ENGL1992 S01 16830 Arranged (P. Armstrong)
Spr ENGL1992 S01 25314 Arranged (P. Armstrong)

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 one another's work. Open to seniors who have been admitted to the Honors Program in Nonfiction Writing. Instructor permission required. S/N/C
Fall ENGL1993 S01 16242 F 3:00-5:30(11) (K. Schapira)

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.
Fall ENGL1994 S01 16832 Arranged (K. Schapira)
Spr ENGL1994 S01 25315 Arranged (K. Schapira)

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/N/C
Fall ENGL2210 S01 16218 F 10:00-12:30 (R. Reichman)

ENGL 2360Z. Shakespeare: a Politics of Love.
This seminar will explore certain of Shakespeare's plays—mainstays such as Romeo and Juliet and Othello but also more marginal texts, such as All's Well and As You Like It—in order to discern a politics of love. Enrollment limited to 15.
Spr ENGL2360Z S01 24832 W 3:00-5:30(10) (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 15474 Arranged 'To Be Arranged'

ENGL 2561U. Consciousness and the Novel.
How does the novel represent conscious life? Intensive study of literary examples from the 18th through the 20th centuries (Richardson, Sterne, Austen, Dickens, Joyce, Woolf, and Morrison) will be accompanied by selected theoretical readings on challenges to the grammatical model from historical and cognitive methods and from affect theory, race and gender studies, and theories of the posthuman. Enrollment limited to 15.
Spr ENGL2561US01 24833 Th 4:00-6:30(17) (P. Armstrong)

ENGL 2561V. The Pursuit of Happiness: Transatlantic Literary Culture in the Long Eighteenth Century.
English and American literature of the long eighteenth century with a focus on emerging concepts of happiness. Reading includes poetry, novels, satire, travel, moral philosophy, and other genres. The right to pursue happiness placed in the context of new forms of social mobility such as education, class, and affectionate marriage, but also in the context of war, empire, slavery, and other metropolitan and colonial cultural formations and exchanges. Enrollment limited to 15.
Fall ENGL2561VS01 16200 W 3:00-5:30(17) (M. Rabb)

ENGL 2561W. Image, World, Bodies: Wordsworth, Clare, Hopkins.
A close reading of the poetry of Wordsworth, Clare, and Hopkins with particular reference to theories of visibility, embodiment, and worlding/worldlessness. Enrollment limited to 15.
Spr ENGL2561WS01 24834 M 3:00-5:30(13) (J. Khailp)

ENGL 2580. Graduate Independent Study in the Enlightenment and Modern Literatures.
Section numbers vary by instructor. May be repeated for credit. Instructor's permission required.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
ENGL 2761R. Memory/Matter/Time: Literature and the Changing Earth.
In this collaborative seminar we will consider the flickering edge between metaphor and materiality in the shadow of the Anthropocene. Weekly discussions will be built around a series of “threshold sites”—including Sea, Sun, Silk, Plastic, Forest, Photograph, Shelf, Horse, Whale—in which “matter” and “figure” may be seen to be simultaneously in relation and at odds. We will endeavor to think metaphorically as the imbrication of materiality and semiosis, and in its relationship to ecological time, through readings from Lucretius, Melville, Coleridge, Ponge, Moore, Bervin, Barad, Haraway, Derrida, Ricoeur, among others. Enrollment limited to 15.
Fall ENGL2761RS01 16201 Th 4:00-6:30(04) (A. Smallbegovic)

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 2900X. Postcolonial Theory.
In this introduction to postcolonial theory we will consider key Western sources (Hegel, Marx, Lacan, Levi Strauss, Emmanuel Levinas), anticolonial manifestos (Gandhi, Fanon, Césaire, Memmi); political and ethical practices (civil disobedience, armed struggle, friendship). In addition to canonical critics (Said, Bhabha, Spivak), the course will review new interests in the field (transnationalism, non-western imperialisms, the environmental turn).
Fall ENGL2900XS01 16226 Th 4:00-6:30(04) (L. Gandhi)

ENGL 2901D. War and the Politics of Cultural Memory.
The past several decades have seen the rise of a veritable memory industry devoted to the memorializing of wars. This seminar focuses on a selection of British, European, and American novels, memoirs, and films that self-consciously engage in remembering a range of conflicts, from the First World War to the “War on Terror,” alongside a relevant body of theoretical writings. Our aim is to think in detail, and collectively, about the political stakes of such literary remembrances and to develop together a “contrapuntal” approach that engages with the collaborative tensions between Anglo-European, postcolonial, and US minority modes of memory.
Fall ENGL2901DS01 24835 Th 10:00-12:30 (D. Kim)

ENGL 2901M. Bakhtin and the Political Present: Literature, Anthropology, Dialogue.
This collaborative humanities graduate seminar explores the revolutionary ideas of Mikhail Bakhtin, considering their influence in two disciplines, literary studies and linguistic anthropology. The primary historical context of the course is our own political present, characterized by linguistic homogeneity, the unification of power, and the rise of authoritarian governments. How effective are Bakhtin’s theories of dialogue, polyphony and carnival as principles of resistance to the challenges of the current moment? Instructor permission required. Enrollment limited to 15.
Fall ENGL2901MS01 16204 M 3:00-5:30(05) (T. Bewes)

ENGL 2901N. Suspicion and Its Others.
From the hemeneutics of suspicion to post-critique, a range of thinkers and theories have positioned suspicion as a central critical disposition of the modern age. In this collaborative seminar we will explore the concept and practice of suspicion both in relation to the classic objects over against which it emerged—morality, religion, and tradition—and through the lens of other modes of engagement more recently proposed, including charity, reconstruction, attunement, quiet, resonance, and reparative practices of reading. Readings will be drawn from philosophy, critical theory, race and ethnicity studies, gender and sexuality studies, and literary theory and criticism.
Fall ENGL2901NS01 16205 W 3:00-5:30(17) (A. Anderson)

ENGL 2901P. Black Feminism: Roots, Routes, Futures.
This graduate seminar pursues an interdisciplinary investigation of black feminist theories, methods, praxes, and politics. Using a black feminist lens, it investigates legacies of racial slavery and colonialism; the pathways and promises of African diaspora; citizenship, labor, and the law; theories of the flesh and changing definitions of kin; human ontology and the mutability of gender; black expressive practices and emancipatory politics. Enrollment limited to 15.
Spr ENGL2901PS01 24836 T 10:30-1:00 (A. Abdur-Rahman)

ENGL 2940. Scholarly Writing for Journal Publication.
Writing and professionalization workshop intended for graduate students in literary studies. Topics covered include selection of journal; framing, structuring and composition of the article; the logistics of peer review; sharing and workshopping drafts; working with academic mentors and advisors. Every passing student will have a publishable article under consideration by the end of the semester. Enrollment limited to 12 English Ph.D. students. Instructor permission required. S/N/C.
Spr ENGL2940 S01 24913 F 3:00-5:30(15) (K. Quashie)

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 16243 T 12:00-2:30 (J. Read)

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 15475 Arranged 'To Be Arranged'
Fall ENGL2970 S01 15476 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 15476 Arranged 'To Be Arranged'
Spr ENGL2990 S01 24277 Arranged 'To Be Arranged'

ENGL XLIST. Courses of Interest to Students Concentrating in English.
Spring 2021
 These courses, offered in other departments, are cross listed with the English Department and do not require advisor approval to count toward the concentration for English concentrators. Please refer to the primary department for registration details.
 Cogut Institute for Humanities
 HMAN 2401B Thinking Breath: An Inquiry Across Philosophy, Literature, and Performance
 HMAN 2401C Inscribing the Event: Poetics and Politics of the Date

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 ENVS0070CS01 16800 TTh 1:00-2:20(08) (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. Students must join a 90-minute weekly discussion section. Each section will partner with a community organization to complete an engaged, local project.
Fall ENVS0110 S01 16804 MWF 10:00-10:50(14) (K. Teichert)

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.
Fall ENVS0490 S01 25255 TTh 9:00-10:20(01) (T. Kartzinel)

ENVS 0705. Equity and the Environment: Movements, Scholarship, Solutions.
The environmental justice movement emerged in the U.S. South from the observation that African-Americans were more exposed to toxics than whites. It spurred decades of academic and activist efforts to understand and address the relationship between inequality and environment. The issue has expanded around the world, and beyond unequal exposures to “bads”, to unequal access to “goods,” along lines of equity by race, class, gender, ethnicity, indigenous identity, and position in the global economy. Issues of assigning responsibility and applying theories of justice with legal instruments have made environmental justice policy difficult. This course seeks to serve first-years and sophomores.
Spr ENVS0705 S01 25256 TTh 2:30:3-5:00(11) (M. Lennon)

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 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.
Fall ENVS1400 S01 16803 TTh 10:30-11:50(02) (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 11366 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 11367 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 11368 Arranged 'To Be Arranged'

ENVS 1493. SES-Environmental Science Elective.
The 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 11369 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 16802 TTh 6:40-8:00PM(10) (C. Krosinsky)

ENVS 1555. Urban Agriculture: The Importance of Localized Food Systems.
This is an engaged scholar course. Urban agriculture has a critical function in a small but increasing movement toward more localized and sustainable food systems. This course focuses on research and readings from multiple disciplines addressing urban agriculture and local food systems’ role in shaping food policies, labor practices, sustainable agricultural practices, and human health (to name a few). More importantly, students will work with community partners to actively engage in a local food system project. Enrollment limited to 40.
Spr ENVS1555 S01 25257 TTh 1:00-2:20(08) (D. King)

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 rationale, 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.
Spr ENVS1580 S01 25256 TTh 10:30-11:50(09) (K. Teichert)

Scholars in many disciplines have begun using the term the Anthropocene to signal a geological epoch defined by human activity. This seminar examines the Anthropocene idea from the perspective of environmental history. What activities might have changed the planet – the use of fire thousands of years ago, or agriculture, or fossil fuels? Is the Anthropocene another term for climate change, or does it include pollution and extinction? Is it a useful concept? Drawing on anthropology and the sciences as well as history, we will use the Anthropocene to think through environmental change and the human relationship with the non-human world.
Fall ENVS1910 S01 16807 Th 4:00-6:30(04) (B. Demuth)

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
This course provides an introduction to a wide range of research approaches in the social and environmental sciences. We will cover the epistemological and theoretical foundations of various research approaches and discuss implications of these foundations for what research questions are answerable and what evidence one can bring to bear to answer such questions. By the end of the semester, students will be able to write a clear and answerable research question, and know what methods are appropriate to use to answer such a question. Enrollment limited to ENVS Juniors. ENVS seniors must receive instructor override from Professor Bosworth, kai_bosworth@brown.edu.
Fall ENVS1920 S01 16806 TTh 1:00-2:20(08) (R. Wetts)

From coal power to solar power, energy drives economies and increases quality of life world-wide. However, this same energy use can, and often does, lead to severe environmental destruction/pollution and global warming. This course serves as an introduction to energy policy in the United States and also explores global attempts to solve energy problems. This course examines different types of energy sources and uses, different ideological paths driving energy policy, the environmental impacts of energy use, current global and domestic attempts to solve energy problems, and the role of renewable and alternative forms of energy in future energy policy.
Fall ENVS1925 S01 25259 M 3:00-5:30(13) (D. King)

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.
Fall ENVS1970 S01 16189 TTh 10:30-11:50(13) (S. Ravillon)

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.
Fall ENVS1971 S01 16190 TTh 10:30-11:50(13) (S. Ravillon)

ENVS 2450. Exchange Scholar Program.
ENVS 2980. Reading and Research.
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.
Fall ENVS2980 S01 16148 TTh 1:00-2:20(08) (S. Ravillon)

ENVS 2981. Reading and Research.
Second semester of thesis research. 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.
Fall ENVS2981 S01 16149 TTh 1:00-2:20(08) (S. Ravillon)

ENVS 2990. Thesis Preparation.
For graduate students who have met the tuition requirement and are paying the registration fee to continue active enrollment while preparing a thesis.

French Studies
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.
Fall FREN0100 S01 16189 MF 9:00-9:50(13) (S. Ravillon)
Fall FREN0100 S01 16189 TTh 10:30-11:50(13) (S. Ravillon)
Fall FREN0100 S02 16191 MF 10:00-10:50(13) (S. Ravillon)
Fall FREN0100 S02 16191 TTh 10:30-11:50(13) (S. Ravillon)
Fall FREN0100 S03 16192 MF 11:00-11:50(08) (S. Ravillon)
Fall FREN0100 S03 16192 TTh 1:00-2:00(08) (S. Ravillon)
Fall FREN0100 S04 16193 TTh 10:30-11:50(13) (S. Ravillon)
Fall FREN0100 S04 16193 MF 12:00-12:50(13) (S. Ravillon)
Fall FREN0100 S05 16194 TTh 9:00-10:20(02) (S. Ravillon)
Fall FREN0100 S05 16194 MF 1:00-1:50(02) (S. Ravillon)

FREN 0200. Basic French. (S. Ravillon)
This is the second half of a two-semester course. Four meetings a week for oral practice plus one conversation hour. One hour of work outside of class is expected every day (grammar/writing, oral practice, reading). An accelerated track enables qualified students to go directly to FREN 0500 after FREN 0200. Enrollment limited to 15.
Spr FREN0200 S01 24782 MF 9:00-9:50(08) (S. Ravillon)
Spr FREN0200 S01 24782 TTh 1:00-2:20(08) (S. Ravillon)
Spr FREN0200 S02 24783 MF 10:00-10:50(09) (S. Ravillon)
Spr FREN0200 S02 24783 TTh 10:30-11:50(09) (S. Ravillon)
Spr FREN0200 S03 24784 TTh 9:00-10:20(01) (S. Ravillon)
Spr FREN0200 S03 24784 MF 11:00-11:50(01) (S. Ravillon)
Spr FREN0200 S04 24785 TTh 10:30-11:50(09) (S. Ravillon)
Spr FREN0200 S04 24785 MF 12:00-12:50(09) (S. Ravillon)
Spr FREN0200 S05 24786 MF 1:00-1:50(08) (S. Ravillon)
Spr FREN0200 S05 24786 TTh 1:00-2:20(08) (S. Ravillon)

FREN 0300. Intermediate French I.
A semi-intensive elementary review with emphasis on all four skills (listening, speaking, reading and writing). Class activities include drills, small group activities, and skits. Class materials include videos, a French film, short stories, and various other authentic documents. Prerequisite: FREN 0200 or placement (Previous experience with French is required to take this class). Four meetings per week, plus a 50-minute conversation section with TAs.
Fall FREN0300 S01 16148 MF 10:00-10:50(08) (S. Ravillon)
Fall FREN0300 S01 16148 TTh 1:00-2:20(08) (S. Ravillon)
Fall FREN0300 S02 16149 TTh 9:00-10:20(02) "To Be Arranged"
Fall FREN0300 S02 16149 MF 11:00-11:50(02) "To Be Arranged"
Fall FREN0300 S03 16150 TTh 10:30-11:50(13) "To Be Arranged"
Fall FREN0300 S03 16150 MF 12:00-12:50(13) "To Be Arranged"

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.
Fall FREN0400 S01 16151 MWF 10:00-10:50(14) (S. Ravillon)
Fall FREN0400 S02 16152 MWF 11:00-11:50(16) (S. Ravillon)
Fall FREN0400 S03 16153 MWF 12:00-12:50(15) (S. Ravillon)
Spr FREN0400 S01 24793 MWF 10:00-10:50(03) (S. Ravillon)
Spr FREN0400 S02 24794 MWF 12:00-12:50(05) (S. Ravillon)
Spr FREN0400 S03 24795 MWF 1:00-1:50(06) (S. Ravillon)

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.
Fall FREN0500 S01 16154 MWF 10:00-10:50(14) (S. Ravillon)
Fall FREN0500 S02 16155 MWF 11:00-11:50(16) (S. Ravillon)
Fall FREN0500 S03 16156 MWF 12:00-12:50(15) (S. Ravillon)
Fall FREN0500 S04 16157 MWF 1:00-1:50(06) (S. Ravillon)
Spr FREN0500 S01 24796 MWF 10:00-10:50(03) (S. Ravillon)
Spr FREN0500 S02 24797 MWF 12:00-12:50(05) (S. Ravillon)
Spr FREN0500 S03 24798 MWF 1:00-1:50(06) (S. Ravillon)

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
FREN 0600. Writing and Speaking French II.
Prerequisite for study in French-speaking countries. Class time is devoted mainly to conversation and discussion practice. Writing instruction and assignments focus on essays, commentaries, and to a lesser degree, on story writing. Apart from reading assignments for discussion (press articles and literary excerpts), students select two novels to read. Prerequisite: FREN 0500 or placement. Enrollment limited to 15.
Fall FREN0600 S01 16197 MWF 10:00-10:50(14) (S. Ravillon)
Fall FREN0600 S02 16202 MWF 11:00-11:50(16) (S. Ravillon)
Fall FREN0600 S03 16203 MWF 1:00-1:50(06) (S. Ravillon)

FREN 0610. Writing and Speaking French II: International Relations.
Prerequisite for study in French-speaking countries. Continuation of FREN 0500. Class time is devoted mainly to conversation and discussion practice. Same level as FREN 0600. This course is designed for students who are interested in international relations. Discussions and writing assignments are related to global politics from French and Francophone perspectives and introduce students to the discourse of international relations in French. Prerequisite: FREN 0500. Enrollment limited to 15.
Fall FREN0610 S01 16159 MWF 12:00-12:50(15) (S. Ravillon)

FREN 0720G. L’art de la nouvelle.
In this course we shall study a range of examples of the nouvelle or short story, from 19th century realist and fantastic literature (Maupassant, Flaubert, Colette) to modern French and Francophone texts (Satre, Camus, Djebær, Redonnet, Quiriny). Emphasis will be on formal analysis, major genres/movements (realism, the fantastic, existentialism, anti-post-colonial critique, “post-modernism”) and the short story’s capacity to offer forms of social critique. We will also read some secondary theoretical materials (Freud, Satre, Barthes, Todrov, Piglia, Samoyault). Taught in French.
Fall FREN0720G S01 16206 TTh 1:00-2:20(08) (T. Ravindranathan)

FREN 1000B. Littérature et culture: Chevaliers, sorcières, philosophes, et poètes.
From the Middle Ages to the Age of Versailles, this course examines 6 foundational moments in French civilization: the Crusades, courtly love, humanism, the witch hunts, Cartesian reason, and the emergence of the autonomous self. Close scrutiny of literary texts and films will provide a window onto French civilization before the Revolution. Readings include medieval epic, Montaigne, and Descartes. 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. Spr FREN1000B S01 24738 TTh 2:30-3:50(11) (V. Krause)

FREN 1040B. Pouvoirs de la scène: le théâtre du XVIIe siècle.
This course examines how 17th-century theater both reinforces and undermines the ideologies of absolutism, national identity, the nuclear family, and emerging bourgeois consciousness, among others. Special consideration will be given to the theory and performance of theater in the 17th century and the present. Readings will be supplemented with screenings of videos for the plays studied (as available). In addition to papers and oral presentations, students will stage selections from some of the plays studied. Plays by Rotrou, Corneille, Molèere, Racine, and an opera by Quinault/Lully. Taught 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 FREN1040B S01 16107 MWF 10:00-10:50(14) (L. Seifert)

FREN 1120F. L’enfer, c’est les autres.
In this course we will read a selection of plays by notable 20th century French and Francophone writers, and consider how the dramatic form organizes and complicates questions of representation, subjectivity, body, politics and voice. Authors include Sartre, Camus, Genet, Beckett, Césaire, Koltès, Duras, Sarragute, Ndiaye, Redonnet. Secondary readings by Adorno, Deleuze, Kristeva amongst others. Taught 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.
Spr FREN1120F S01 24804 Th 4:00-6:30(17) (T. Ravindranathan)

FREN 1140A. French Theory.
Something called both “French” and “theory” came ashore in the Anglo-American academic scene of the 1970s. Supposedly both impenetrable and hegemonic, it was seen to reconstitute what was discussed in programs in literature and the social sciences, and how it was discussed. Today the shoreline of study in the humanities has been transformed, but French theory’s moment is presumed to have past. This course will trace that history through key French texts (read in translation) written between the 1960s and 1990s. Taught in English.
Spr FREN1140A S01 24750 W 3:00-5:30(10) (D. Willis)

FREN 1210F. L’œuvre romanesque de Marguerite Duras.
Starting with her first novels in the 1950s and up until her broad recognition, for The Lover, as France’s most renowned female writer of the post-WWII period, Marguerite Duras was involved in profound research into the form and force of novelistic narrative. Our course will examine a representative series of her texts from three different points of view: narrative, writing, femininity. 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.
Fall FREN1210F S01 16115 TTh 2:30-3:50(12) (D. Willis)

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 16113 MWF 12:00-12:50(15) (L. Seifert)

FREN 1410F. Comment peut-on être Français? L’identité française en question.
This course will examine the transformation of cultural identity in contemporary France. What does it mean to be “French” or étranger today? We will investigate this question by reflecting on some of the major changes that have occurred in French society in the past 30 years in the wake of immigration, the emergence of ethnic identity, racism, the construction of Europe, and globalization. We will study contemporary fiction and non-fiction, essays, films, songs, comedy, as well as theoretical texts. Readings will include works by Leilla Sebar, Chadhurt Djavann, Faiça Guêne, Julie Kristeva, Tzvetan Todrov, Philippe d’Iribarne, and Eric Fassin. 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.
Fall FREN1410F S01 16690 MWF 11:00-11:50(16) (O. Mostofai)

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
FREN 1410R. Images d’une guerre sans nom: The Algerian War in Literature and Film.
Not officially acknowledged as a war by France until recently, the Algerian War of independence remains, more than a half-century later, a contested battleground in the French national consciousness. Focusing on depictions of the Algerian War in literature and film, we will investigate the many taboos that still endure, most notably around the question of violence and torture, and attempt to reassess the relative “invisibility” of this conflict. Readings will include films by Gillo Pontecorvo, Jean-Luc Godard, Alain Resnais, Agnès Varda, and works by Frantz Fanon, Jean-Paul Sartre, Albert Camus, Benjamin Stora, Claire Etcherelli, Assia Djebar, and Leïla Sebbar. 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.

Spr FREN1410R S01 24708 M 3:00-5:30(13) (O. Mostefai)

FREN 1410T. L’expérience des réfugiés: déplacements, migrations.
An exploration of the experience of refugees and immigrants with two components. The first component consists of close study of the French context from Decolonization up through the current refugee crisis based on literature, film, the press, and critical essays. The second component of this course will give students the opportunity to work with refugee/recent immigrant communities in Providence. This is a community-engaged course requiring substantial commitment beyond the classroom. Taught 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 FREN1410T S01 16023 W 3:00-5:30(17) (V. Krause)

FREN 1510A. Advanced Oral and Written French: Traduction.
An introduction to the theory and practice of translation, this course will be designed to expand students’ range and appreciation of written styles and registers and will be based on translation exercises and texts reflecting different types of written and oral communication. Texts will range from literary texts (excerpts from novels, plays, comic books...) to journalistic texts (articles from newspapers...). Class activities will also include comparative studies of translated texts, as well as grammar review and vocabulary work. Course taught in French. Written translations to and from French. Prerequisite: FREN 0600 or equivalent. Enrollment limited to 18. Instructor permission required.

Spr FREN1510A S01 24803 MWF 10:00-10:50(03) (S. Ravillon)

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.

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 2110A. Le roman renaissance.
From the origins of the medieval romance in the 12th century, this course traces the history of the genre through the end of the sixteenth century. What was the fate of the knight errant in the modern era and how did the invention of printing transform medieval romance cycles? Did the humanist novel offer a corrective to the vagaries of chivalric romance? Literary works will be read in light of theories of the novel. Readings in Chrétien de Troyes, the prose Lancelot, Rabelais, Bakhtin, Lukács, and others. Taught in French.

Fall FREN2110A S01 16331 M 3:00-5:30(05) (V. Krause)

FREN 2130R. Penser et écrire le non-humain au XVIIème siècle.
Under the influence of “New Science,” the 17th century witnessed dramatic shifts in ways of perceiving and relating to the natural world. Guided by theoretical and historical work in environmental humanities and with a focus on literature, we will consider how French thinkers and writers framed the relationship between humans and their non-human others (animals, plants, natural landscapes). Theoretical readings in Braidotti, Descola, Foucault, Latour, primary texts by Descartes, Cyrano de Bergerac, Cureau de la Chambre, Scudéry, Pascal, La Fontaine, Sévigné, Perrault (Claude and Charles), d’Aulnoy, among others. Taught in French.

Spr FREN2130R S01 24898 F 3:00-5:30(15) (L. Seifert)

FREN 2170N. La Poésie et ses révolutions.
Study of major poets of the second half of the long nineteenth century. Topics include: symbolism and decadence, vers libéré and vers libre, French prosody, prose poetry, gender and the lyric, the poetic subject. Authors read will include: Baudelaire, Mallarmé, Rimbaud, Verlaine, Kryszinska, Vivien, Valéry, Apollinaire. Taught in French.

Spr FREN2170N S01 24914 W 3:00-5:30(10) (G. Schultz)

FREN 2190D. Literary Theory of Roland Barthes and Jacques Derrida.
These two thinkers, one from a literary and rhetorical perspective, the other speaking out of philosophy, posed in a persistent and explicit manner during the period 1965–1980 the question of literature. We will study a series of their texts that continue to provide important models for a critical approach to literary writing. Taught in English.

Fall FREN2190D S01 16329 W 3:00-5:30(17) (D. Wills)

FREN 2450. Exchange Scholar Program.

Fall FREN2450 S01 15480 Arranged “To Be Arranged”
Spr FREN2450 S01 24280 Arranged “To Be Arranged”

FREN 2620K. Metaphor/Matter/Time.
In this collaborative seminar we will consider the flickering edge between metaphor and materiality in the shadow of the Anthropocene. Weekly discussions will be built around a series of “threshold sites”—including Sea, Sun, Silk, Plastic, Forest, Photograph, Shell, Horse, Whale—in which “matter” and “figure” may be seen to be simultaneously in relation and at odds. We will endeavor to think metaphorically as the imbrication of materiality and semiosis, and in its relationship to ecological time, through readings from Lucretius, Melville, Coleridge, Ponge, Moore, Bervin, Barad, Haraway, Derrida, Riceour, among others. Taught in English.

Fall FREN2620K S01 16330 F 3:00-5:30(11) (T. Ravindranathan)

FREN 2970. Preliminary Examination Preparation.
For graduate students who have completed their course work and are preparing for a preliminary examination.

Fall FREN2970 S01 15481 Arranged “To Be Arranged”
Spr FREN2970 S01 24281 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 15482 Arranged “To Be Arranged”
Spr FREN2990 S01 24282 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.

Fall GNSS0120 S01 17205 MWF 1:00-1:50(06) (O. Davis)

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

**German Studies**

**GRMN 0100. Beginning German.**
A course in the language and cultures of German-speaking countries. Four hours per week plus regular computer and listening comprehension work. At the end of the year, students will be able to communicate successfully about everyday topics. 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 GRMN 0200 covers the entire year and is recorded as the final grade for both semesters.

- Fall GRMN0100 S01 16003 MWF 9:00-9:50(01) (J. Fine)
- Fall GRMN0100 S01 16003 T 12:00-12:50(01) (J. Fine)
- Fall GRMN0100 S02 16004 MWF 11:00-11:50(16) (J. Fine)
- Fall GRMN0100 S01 16003 T 12:00-12:50(16) (J. Fine)
- Fall GRMN0100 S02 16005 MWF 12:00-12:50(15) (J. Fine)
- Fall GRMN0100 S02 16005 T 12:00-12:50(15) (J. Fine)
- Fall GRMN0100 S04 16006 T 12:00-12:50(06) (J. Fine)
- Fall GRMN0100 S04 16006 MWF 1:00-1:50(06) (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. Frequent writing assignments. Four hours per week. Recommended prerequisite: GRMN 0200.

- Fall GRMN0300 S01 16007 MWF 10:00-10:50(14) (J. Fine)
- Fall GRMN0300 S01 16007 Th 12:00-12:50(14) (J. Fine)
- Fall GRMN0300 S02 16008 Th 12:00-12:50(06) (J. Fine)
- Fall GRMN0300 S02 16008 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 GRMN0500FS01 16009 MWF 11:00-11:50(16) "To Be Arranged"

**GRMN 1340Y. Germans and Jews.**
This introductory course will examine the fraught relationship between Germans (and Austrians) and Jews in Germanophone writing across genres from the Enlightenment to the mid-20th century. We will consider writing by Jewish authors, images of Jews, and the themes of Jewishness and Germanness, emancipation, assimilation, anti-semitism and Zionism. Students will learn analytic reading, writing and research skills. Texts by Lessing, Mendelssohn, Veit, von Arnim, Heine, Marx, Droste-Hülshoff, Laske-Schüler, Kafka, Benjamin, Schollem and Arendt, among others. Readings and discussion in English.

- Fall GRMN1340Y S01 16875 MWF 11:00-11:50(16) (S. Bernstein)

**GRMN 1340Z. Reisen und Entdecken.**
Globalization is a phenomenon that changes basic structures of contemporary life. The political, social, economic and cultural spheres are connected worldwide & influence each other like never before. German literature reflects these developments & effects on them in a multitude of ways. One of the modes in which literature after the spatial turn renegotiates space, time, & identities, are contemporary travel accounts, in which encounters w/ the other are shown to be cultural constructions that are always influenced by preconceived ideas and ideologies. Readings of texts by Christoph Ransmayr, Sten Nadolny, Felicitas Hoppe, Daniel Kehlmann, and others. Prereq: GRMN 600 or equivalent. In German.

- Fall GRMN1340Z S01 17187 Thh 1:00-2:20(08) (T. Kriesche)

**GRMN 1341A. Kafka (Im)paired.**
Kafka's writing might be profoundly singular, but it also challenges us to think about dualities. His texts teem with thematic dyads and character pairs that are as memorable and genial as they are incomprehensible, uncanny, absurd, and disastrous. Our seminar takes on these unlikely couplings alongside the question of what it means to ‘pair’ Kafka with philosophy, film, history, post-modernity, etc. Readings and discussions in English, with German originals available to students with the necessary proficiency.

- Fall GRMN1341A S01 16876 Th 4:00-6:30(04) (Z. Sng)

**GRMN 1441F. On Gifts and Givens.**

What could it mean, “to give”? From the outset of “The Gift: Forms and Functions of Exchange in Archaic Societies,” Marcel Mauss underscores the value of the gift in economic terms that the notion of giving, taken apart, would have to exceed. Any given phenomenon that happens to appear, for example, no longer belongs to a scheme of reciprocity and surpasses what anyone can grasp: otherwise, there could be no different takes on it. Throughout this course, literary, anthropological, and theoretical texts will be examined to address the problems that present themselves when giving is at stake.

- Fall GRMN1441F S01 16877 W 3:00-5:30(17) (K. Mendicino)

**GRMN 1450L. Flussdichtungen.**
The flow of words and the flow of water are complicit in many languages. Between fluency disorder and logorrhoea the discourse on human speech (and speech deficiency) often recurs to the image of rivers, or streams. The seminar will follow and unfold this complicity between (spoken) language and rivers in excerpts from Homer’s Odyssey; in poems by Ausonius, Hölderlin, Mörke, Heine, Keller, Stefan George, Bertolt Brecht; in a chapter from James Joyce’s Finnegans Wake (“Anna Livia Plurabelle”); in two prose pieces (by Hebel and Kafka) on swimming; and in a song by Johnny Cash: Big River. Taught in German.

- Fall GRMN1450L S01 17188 Th 10:30-11:50(13) (T. Schestag)

**GRMN 1970. Independent Study.**
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.

**GRMN 1990. Senior Conference.**
Special work or preparation of an honors thesis under the direction of a faculty member. Please check Banner for the correct section number and CRN to use when registering for this course.

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For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
**GRMN 2261U. Mourning, in Theory.**
Our graduate seminar will trace the fundamental affinity between critical theory and modes of mourning. Through careful reading of key reflections on the bonds among thinking, language, and mourning, we will work to deepen our understanding of how our relation to finitude, loss, and absence relates to the potentialities of conceptual inquiry. Texts to include Heidegger on Dasein’s finitude; Freud on mourning and melancholia; Benjamin on the “mourning play”; Barthes’ Mourning Diary; Derrida’s The Work of Mourning and his newly published seminar Life Death; and Butler on the politics of grievable and allegedly un grievable lives. Students from diverse fields welcome.

Fall GRMN2261US01 17189 M 3:00-5:30(05) (G. Richter)

**GRMN 2450. Exchange Scholar Program.**

**GRMN 2662C. History, Philology.**
At one point in his Treatise on Philological Knowledge Peter Szondi claims that philological knowledge differs, in essence, from historical knowledge. The seminar will pursue and discuss this (non)relation in texts by Seneca, Dante, Vico, Auerbach, Said, Nietzsche, Benjamin, Kafka, Heidegger, Joyce, Beckett, Szondi, Paul de Man, and Derrida. Taught in English.

Fall GRMN2662CS01 16878 T 1:00-3:30 (T. Schestag)

**GRMN 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 GRMN2970 S01 15486 Arranged “To Be Arranged”
Spr GRMN2970 S01 24286 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 15487 Arranged “To Be Arranged”
Spr GRMN2990 S01 24287 Arranged “To Be Arranged”

**GRMN XLIST. Courses of Interest to Students Concentrating in German Studies.**

**Swedish**

**SWED 0100A. Beginning Swedish.**
Swedish 0100 is an introduction to both Sweden and Swedish, covering various aspects of Swedish history, art and society, as well as screening at least three Swedish films per semester. The course packet contains the text/workbook, Mål 1, with additional materials. We will cover one chapter of Mål per week, with quizzes every three weeks. There will be a midterm and final exam, along with a short take-home project.

This is a small class, so your presence is absolutely required. Emphasis will be placed on speaking and understanding Swedish. Good will and good humor are required.

This is the first half of a year-long course (SWED 0100A and SWED 0200A) whose first semester grade is temporary. Neither semester may be elected independently without special written permission. The final grade at the end of the course work in SWED 0200A covers the entire year and is recorded as the final grade for both semesters.

Fall SWED0100S01 16613 TTh 4:00-6:30 (A. Weinstein)

**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 18; 15 spaces are available for students during preregistration. 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 16557 MW 9:00-9:50(02) (V. Smith)
Fall HISP0100 S01 16557 TTh 9:00-10:20(02) (V. Smith)
Fall HISP0100 S02 16558 MW 10:00-10:50(13) (V. Smith)
Fall HISP0100 S02 16558 TTh 10:30-11:50(13) (V. Smith)
Fall HISP0100 S03 16559 MW 1:00-1:50(08) (V. Smith)
Fall HISP0100 S03 16559 TTh 1:00-2:20(08) (V. Smith)
Fall HISP0100 S04 16560 TTh 1:00-2:20(08) (V. Smith)
Fall HISP0100 S04 16560 MW 2:00-2:50(08) (V. Smith)

**HISP 0110. Intensive Basic Spanish.**
A highly-intensive, two-semester sequence in one semester that carries 10 contact hours per week. Primarily for students with knowledge of Spanish, who have scored below 450 on SAT II or below 340 in Brown Placement Exam. Students with little or no preparation in Spanish should consult with the Course Supervisor. Focused on acquisition of communicative skills (speaking, listening comprehension, reading and writing), and development of 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 daily life, health, art and culture, nature and the environment, and relationships) and write simple texts with good command of grammar and sentence structure. Ideal for students interested in fast-tracking their language learning to meet study abroad requirements. Double credit. Instructor permission required. Enrollment limited to 18: 15 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.

Spr HISP0110 S01 25023 MTWTHF10:00-11:50 (N. Schuhmacher)

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
**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 18; 15 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.

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<tr>
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<td>TTh 9:00-10:20</td>
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**HISP 0300. Intermediate Spanish I.**  
This course continues to develop and strengthen students' proficiency in the Spanish language, as well as to help them increase their cultural understanding. It seeks to develop both fluency and accuracy and to teach students to express, interpret, and negotiate meaning in context. Through the exploration of themes such as the individual and the community, health issues, traveling, multiculturalism and human rights, students focus on communication and learn to appreciate cultural differences. Prerequisite: either HISP 0200, HISP 0110, or placement: SAT II scores between 460 and 510, or Brown Placement Exam scores between 341 and 410. 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 18; 15 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.

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**HISP 0400. Intermediate Spanish II.**  
This course offers an exploration of the Spanish language and Hispanic cultures through a variety of thematic foci: the world of work, the arts, globalization and technology, leisure, and celebrations. It focuses on vocabulary building, the examination of some of the more difficult points of grammar, and moving students towards a more sophisticated level of comprehension and expression. Students work with readings, including literary texts; songs; film; and the visual arts. Prerequisite: 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. Enrollment limited to 18; 15 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.

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**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 400 course or above, you will be too advanced for this 400 level class.

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<td>Fall HISP0490A S01 16568</td>
<td>MWF 11:00-11:50</td>
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For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
HISP 0500. Advanced Spanish I.
Offers comprehensive work 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 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 18; 15 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 16604 MW 9:00-9:50(02) (S. Sobral)
HISP0500 S01 16604 TTh 9:00-10:20(02) (S. Sobral)
HISP0500 S01 25218 TTh 9:00-10:20(01) (E. Gomez Garcia)

HISP 0550. (E. Gomez Garcia)

HISP 0600. Advanced Spanish II.
Offers continued, advanced-level work in speaking, listening, reading, and writing skills, with focused review of challenging aspects of Spanish grammar. Course materials include films, music, art works, and a variety of written texts (articles, stories, plays, a novella, etc.) chosen to promote class discussion and in-depth written analysis. There will be individual and group activities, including in-class presentations and creative writing projects. 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. Please check Hispanic Studies website (Undergraduate Programs) for course descriptions and placement information. Enrollment limited to 18. 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 0730-0740-0750 range.

Fall  
HISP0600 S01 16608 MWF 11:00-11:50(16) (E. Gomez Garcia)
HISP0600 S02 16609 MWF 12:00-12:50(15) (E. Gomez Garcia)
HISP0600 S03 16610 MWF 1:00-1:50(06) (E. Gomez Garcia)
HISP0600 S04 16611 MWF 2:00-2:50(07) (E. Gomez Garcia)
Spr HISP0600 S01 25188 MWF 10:00-10:50(03) (E. Gomez Garcia)
Spr HISP0600 S02 25189 MWF 11:00-11:50(04) (E. Gomez Garcia)
Spr HISP0600 S03 25190 MWF 12:00-12:50(05) (E. Gomez Garcia)
Spr HISP0600 S04 25191 MWF 1:00-1:50(06) (E. Gomez Garcia)

HISP 0710A. Cultura gastronómica de España.
Spain has a rich and varied culinary culture — both steeped in its multicultural history and at the cutting edge of new culinary movements. In this course, you will learn about la cocina española in all its dimensions and at the same time develop your linguistic skills in written and oral Spanish. Topics include: the Mediterranean diet (and its threat from fast food), the culture of tapas, the wine regions of Spain, Spain's new star chefs, the olive oil industry, Spanish food products abroad. We will explore these topics through documentaries, recipes, interviews, films, music, short stories, and hands-on cooking.

Fall  
HISP0710A S01 16910 MWF 9:00-9:50(01) 'To Be Arranged'

HISP 0710C. Introducción a la lingüística hispánica.
This course introduces students to the study of language and deepens their knowledge of Spanish in its main linguistic components. After briefly considering the nature of language, we will study the sounds of Spanish (phonology and phonetics), word and sentence structure (morphology and syntax), and the elements and mechanics to express and interpret meaning (semantics and pragmatics). We will then turn our focus to linguistic phenomena such as changes in Spanish over time (historical linguistics), variations in the language according to region and social group (sociolinguistics), and bilingualism, with special attention to Spanish in the U.S.

Spr HISP0710C S01 25236 TTh 1:00-2:20(08) (S. Sobral)

HISP 0710E. Introduction to Professional Translation and Interpretation.
What is translation? Interpretation? What roles do the translator and interpreter play in communication? What skills and kinds of knowledge are needed to develop competency in translation and interpretation as professional/community services? What factors shape how a text is translated (e.g., purpose, intended audience, type and genre, intercultural differences)? What is the role of translation in advancing language competence and proficiency? Through a functionalist approach, students advance their mastery of Spanish and develop translation competence. In addition to academic work (readings, translation assignments, and in-class exercises), students will also gain practical experience working with Spanish-speaking clinics and community organizations.

Fall  
HISP0710E S01 16612 MW 8:30-9:50(01) (N. Schuhmacher)
HISP 0730. Encounters: Latin America in Its Literature and Culture.
An introduction to major authors, movements, and themes of Spanish American literature from the Discovery to the present. This course also aims to develop students’ oral and written expression in Spanish. Students are expected to engage in close reading and discussion of texts, as well as to revise their papers. Prerequisite: HISP 0600, or AP score =5, or SAT II (Literature) score of 750 or above, or Brown placement score of 651 or above.
Fall HISP0730 S01 16889 TTh 1:00-2:20(08) (I. Montero)

HISP 0740. Intensive Survey of Spanish Literature.
This course provides students an overview of the major authors and movements in Spain’s literature from the Middle Ages to the twentieth century. It teaches students to close-read and engage critically with individual texts and their literary, historical, and social conditions of production. Throughout, we will interrogate canon formation, examine the literary construction of the self and the nation, and analyze the reflection -- and creation -- of culture in literature. Conducted in Spanish. Prerequisite: HISP 0600, or AP score =5, or SAT II (Literature) score of 750 or above, or Brown placement score of 651 or above.
Fall HISP0740 S01 16889 TTh 1:00-2:20(08) (I. Montero)

HISP 0750B. The Latin American Diaspora in the US.
Designed to bridge academic learning about Hispanic/Latino culture and volunteer work in agencies serving Hispanics in Providence. Readings, films, and guest presentations focus on issues of concern to these groups. Spanish language learning occurs in the classroom and the community, where students have the opportunity to enrich and test course content. Prerequisite: HISP 0600 or placement: SAT II scores of over 750, 5 in AP Literature or 651 and over in the Brown Placement Exam.
Spr HISP0750B S01 25384 TTh 9:00-10:20(01) "To Be Arranged"

HISP 0750G. Wildeyed Stories.
Students will study a wide-range of stories from cultures of the Spanish speaking world in literature and film: tales, fables, and humorous stories of heroism, deception and revenge. Class discussions will seek to situate the works examined within the political and cultural currents and debates of their time. Emphasis will be placed on both the historical context and on the development of close reading skills. Conducted in Spanish. Prerequisite: HISP 0600 or placement: SAT II scores of over 750, 5 in AP Literature or 551 and over in the Brown Placement Exam.
Spr HISP0750G S01 25383 W 3:00-5:30(10) (M. Vaquero)

HISP 0750P. Screening Social Justice in the Spanish-Speaking World.
This course engages students with social justice issues in the Spanish-speaking world (the US, Latin America, and Spain), analyzing recent films addressing topics such as: racial, gender, and sexual identities; socioeconomic inequality; immigration, the border, and displacement; civil conflict, dictatorship, and their aftermath; the environment and climate change; postcolonial legacies and the impact of neoliberalism and globalization. We will analyze the stories these films tell and how they tell the story of human rights. Class discussions will focus on how art, film, and social and political events shape the spaces they inhabit.
Fall HISP0750P S01 16714 W 3:00-5:30(17) (S. Thomas)

HISP 0750Q. Health, Illness and Medicine in Spanish and Spanish American Literature and Film.
In this class we will read, see, discuss and write about texts and films that deal with health, illness, death and medicine in Spanish and Spanish American contexts. Our approach will be informed by principles of Narrative Medicine that demonstrate how attending to, representing and affiliating oneself with other human beings by studying literature and the arts can transform relationships between patients and healthcare professionals. We will be honing our reading and analytical skills as we confront the subjective dimensions of illness and medicine from humanistic and cross-cultural perspectives. This course is conducted in Spanish.
Spr HISP0750Q S01 25385 MWF 11:00-11:50(04) "To Be Arranged"

HISP 0750U. Re-writing Realities: A Non-Fiction Creative Writing Workshop.
This course focuses on the basic elements of creative non-fiction writing in Spanish. By writing our own pieces, we will discover how artistic uses of Spanish language can help us view our ‘reality’ under a new light. We will be reading texts from the Spanish language tradition of non-fiction produced through hybrid texts—that is, narrative and essayistic pieces that are not investigative journalism. Our readings will range from influential writers such as Rubén Darío, Jorge Luis Borges, and Alfonso Reyes to contemporary authors including Javier Cercas, Juan Villoro, and Eduardo Halfon.
Spr HISP0750U S01 25654 MWF 1:00-1:50(06) "To Be Arranged"
Spr HISP0750U S02 25655 MWF 2:00-2:50(07) "To Be Arranged"

HISP 1020A. Spanish Civil War in Literature and the Visual Arts.
The Spanish Civil War (1936-39) would culminate with the military overthrow of the Republican government and the beginning of Francisco Franco’s long dictatorship. This course examines the artistic representations of the war, from film (documentary and fictional), through painting (Picasso), to the written works of both Spanish and foreign authors including Orwell, Hemingway, Neruda, Cela, Sender, Rodoreda. Readings and discussion in English.
Fall HISP1020A S01 16722 TTh 9:00-10:20(02) "To Be Arranged"

HISP 1210A. Judeo-Spanish Literature and Culture.
Focuses on Judeo-Spanish literature from the 10th century to the first years of the Spanish Jewish diaspora (end of the 15th century). Poetry and narrative are read as works of moral instruction rooted in traditional modes of art and thought. Considers also the preservation of Judeo-Spanish culture in the Sephardic diaspora through ballads and songs recorded from oral traditions.
Fall HISP1210A S01 17107 MWF 11:00-11:50(16) "To Be Arranged"
Fall HISP1210A S02 17108 MWF 1:00-1:50(06) "To Be Arranged"

HISP 1240C. Golden Age Short Stories.
We will examine the spatial itinerary of main literary figures (the picaro or rogue, the morisco, the soldier, the courtesan, the witch, the indiano) and the spaces they inhabited in Spain’s short stories throughout the 16th and 17th centuries. Violence, sexual transgression, and social conflicts are themes of inquiry. Emphasis on Cervantes’ Novelas ejemplares.
Fall HISP1240C S01 16704 MWF 12:00-12:50(15) "To Be Arranged"

The end of the Spanish Civil War inaugurated one of the longest dictatorships of the twentieth century. This course will examine the literature and popular culture produced in the peninsula during that period--both the "official" culture allowed and sponsored by the Franco regime, and the voices of resistance that attempted to present alternative political views against a background of repression and censorship.
Spr HISP1290D S01 25396 MWF 11:00-11:50(04) "To Be Arranged"

HISP 1290P. Federico Garcia Lorca, 1898-1936.
Federico García Lorca (1898-1936) embodies Spanish Modernity. While his innovative poetry and drama established him as a crucial figure in the 20th Century Spanish cultural landscape, his brutal murder by Fascist supporters at the beginning of the Civil War made of him a symbol of the lost freedom. This class will study his artistic evolution: from his youth in Granada, and his studies in Madrid—where he met and befriended filmmaker Luis Buñuel and painter Salvador Dalí—to his trip to New York and Latin America. The focus of the class will be the study of his poetry, theatre, and essays, but will also explore both the construction of the Lorca myth, and the period of cultural splendor that is encapsulated in his biographical dates: from the loss of the empire in 1898, to the beginning of the Civil War in the summer of 1936.
Spr HISP1290P S01 25638 TTh 2:30-3:50(11) "To Be Arranged"

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
HISP 1330P. The Philosophy of Borges.
Jorge Luis Borges devoted several essays during his youth to developing his philosophical understanding of concepts like "personality," "memory," "reality," "narrative" and "style." At some point later in his literary career, he attempted to erase the memory of those years from his public existence, to the extent that most of the books published during the 1920s were never reprinted during Borges' lifetime. Nevertheless, it was in those years that he developed the entire philosophical grounding of his future literary work. We will work to decipher Borges' philosophy through the reading and interpretation of his essays, narratives and poems, including several key texts from his first three suppressed prose volumes (Inquisiciones, El tamaño de mi esperanza, and El idioma de los argentinos). In English, with some Spanish readings. Prerequisite: HISP 0730 or 0740.

HISP 1370K. Literatura latinoamericana del siglo XXI.
Estudiaremos las tendencias innovativas de la narrativa latinoamericana reciente. Veremos la literatura como un trabajo sobre la resignificación de lo nuevo. Nuevas voces, nuevos textos y géneros, y nuevas ideas proponen una visión del futuro que buscaremos documentar. Los libros y textos que leeremos son un mapa del futuro. Algunos temas: el sicodrama familiar, violencia y crisis del proyecto moderno, la saga de la migración, la conciencia transatlántica, el mundo emotivo y los afectos, la ética de la solidaridad.

HISP 1371J. Gabriel García Márquez and Toni Morrison.
In Spanish and English. This course will follow the conversation between Gabriel García Márquez and Toni Morrison through their fiction, essays, and political standing. Magic realism (Gabo) and mythical resolution (Toni) will be discussed as the political answer to violence, exploitation, and exclusion.

HISP 1371K. Between Borders and Walls.
This conversation will focus on the study and deconstruction of cultural encounters between Europe and the Americas. We plan to start with Shakespeare’s Caliban and Montaigne’s essays, and to follow Martí in NY, Sarmiento in the Mississippi, and Trump in Puerto Rico. Walls and barriers will be discussed in this balance of books undoing prejudice and violence.

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

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HISP 2030G. Mester de clerica.
This course will focus on different works of “mester de clerica” from the 13th and 14th centuries, and provide an overview of current thinking regarding their nature and origin, while at the same time seeking to interrogate many of the prevailing assumptions and received ideas of Spanish literary historiography. Works and topics will include: Libro de Alexandre (ideologies of power), Libro de Apolonio (the intellectual hero), Berceo’s works (hagiography, clerical poetry, the rise of literacy), Poema/ Libro de Fernán González (epic hero), and Libro de buen amor (seduction manual/spiritual guide).

HISP 2350Y. Escritoras Transatlánticas del XXI.
En este curso estudiaremos la producción de algunas poetas y narradoras que han hecho de la condición femenina el centro alambrado de su obra. Leeremos los libros de Diamel Elitt (Chile), Matilde Sánchez (Argentina), Mariela Dreyfus (Perú), Julia Castillo y Marina Peregagua (España), Rocio Ceron (México), María A. Alvarez (Venezuela), y las Poetas Transatlánticas de Brown (Silvia Goldman, Claudia Becerra, Ethel Barja, Berta García Fael).

HISP 2350Z. Neovanguardias: escribir después.
This class explores the practices of a range of poets working individually or collectively in the wake of the historical avant-gardes in Latin America. We will range over conversational poetry from Chile and Peru; visual and citational poetry from Brazil and Mexico; performed poetry from Cuba and Argentina; and experiments with and by the book. Our readings will be set against a moving backdrop of theory, film, art practices, and political upheavals, asking how poetry reconfigures the aesthetic while engaging questions of gender, race, and audience. Writers will include Parra, Carrión, JL Martínez, Hora Zero, Varel, Thonén, Carrera, Zurita.

HISP 2450. Exchange Scholar Program.

HISP 2520L. Latin American Existential Literature.
European existentialism had a strong impact on Latin American literature, though that impact remains under-explored. The course begins with European existentialism and Latin American identity politics. It then explores the particular constructions of European existentialism effected by Argentine, Uruguayan, Mexican, and Brazilian writers of prose fiction in the mid-twentieth century. Readings in Spanish and English. Instructor override needed for registration.

HISP 2620O. Authorship and Authoritarianism in Spain and Latin America.
This course examines responses to authoritarianism in contemporary Spanish and Latin American literature, using the particular cases of recent dictatorships in Spain (Francisco Franco, 1939-1975) and Chile (Augusto Pinochet, 1973-1990) as a focus. Alongside novels and a play dealing with dictatorship and its aftermath, we will read theoretical texts that offer varied approaches to history, literature, aesthetics, and politics. Throughout, we will examine the complex relationship between authority, authoritarianism, and authorship in the twentieth and twenty-first centuries, asking how dictatorship is (not) narrated and how we can read narratives emerging from contexts of repression and state terror. In Spanish.

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.

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.

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.
HIST 0150D. Refugees: A Twentieth-Century History.
Refugees are arguably the most important social, political and legal category of the twentieth century. This introductory lecture course locates the emergence of the figure of the refugee in histories of border-making, nation-state formation and political conflicts across the twentieth century to understand how displacement and humanitarianism came to be organized as international responses to forms of exclusion, war, disaster and inequality.
Spr HIST0150D S01 24767 MWF 1:00-1:50(06) (V. Zamindar)

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 15874 TTh 9:00-10:20(02) (J. Mumford)

HIST 0234. Modern Latin America.
This course is an introduction to the history of modern Latin America. Through lectures, discussions, shared readings, we will explore major themes in the past two hundred years of Latin American history, from the early nineteenth-century independence movements to the recent “Left Turn” in Latin American politics. Some of the topics we will examine include the racial politics of state-formation; the fraught history of U.S.-Latin American relations; the cultural politics of nationalism; how modernity was defined in relation to gender and sexuality; and the emergence of authoritarian regimes and revolutionary mobilizations, and the role of religion in shaping these processes.
Spr HIST0234 S01 24609 MWF 10:00-10:50(03) (D. Rodriguez)

HIST 0243. Modern Middle East Roots: 1492 to the Present.
A robust introduction to Middle East history from early-modern to contemporary times. We begin in Reconquista Spain with the expulsion of Iberia’s longstanding Muslim and Jewish populations, before journeying to the eastern Mediterranean at the Ottoman Empire’s zenith. In the “long” 19th-20th centuries, we explore modern tensions shaping this amorphous but pivotal region, including: colonialism, nationalism, and Islamism; water, fossil fuels, and information infrastructures; constitutionalism, authoritarianism, and “street” politics; and interventions by the US, USSR/Russia, and local powers. Emphasizing socioeconomic, legal, and environmental history perspectives, our goal is to unearth the roots of conflict and other conditions shaping today’s “Middle East.”
Fall HIST0243 S01 15938 MWF 12:00-12:50(15) (F. Ahmed)

HIST 0248. 'Neither of the East nor West': The Ottoman Empire.
The Ottoman Empire (1299—1923) was the longest lived, most powerful, and most controversial Muslim dynasty in history. From Turkish nomads in Asia to multiethnic empire straddling three continents, the Ottomans became the premier power of the early-modern Mediterranean and last to single-handedly govern most of today’s “Middle East.” Yet, the empire’s formation and evolution—fusing Persianate, Mongol, and Roman legacies, as well as Muslim, Christian, and Jewish populations—remain little understood. Navigating multiple regions and eras, we’ll explore the contours of Ottoman history—from medieval beginnings to modern legacies, including those surviving the empire’s partition and demise after WWII.
Spr HIST0248 S01 24621 TTh 2:30-3:50(11) (F. Ahmed)

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—but some knowledge of U.S. history might be useful.
Fall HIST0252 S01 15866 MWF 12:00-12:50(15) (M. Vorenberg)

HIST 0253. Religion, Politics, and Culture in America, 1865 - Present.
Religion has played an undeniable role in the contemporary American cultural landscape. This course lends some perspective on the present by investigating the various and, at times, surprising role religion has played in history in the shaping of American culture from 1865 to the present.
Fall HIST0253 S01 15865 MWF 10:00-10:50(14) (L. Fisher)

HIST 0270A. From Fire Wielders to Empire Builders: Human Impact on the Global Environment before 1492.
This is a new lecture course intended to introduce the field of environmental history to students with no previous experience in it. The study of prehistoric, ancient and medieval environments is a heavily interdisciplinary research field, and the course will emphasize the variety of sources available for studying it. We will combine textbook readings with primary source readings from scientific and archaeological reports and, especially, contemporary texts. P
Fall HIST0270A S01 15871 MWF 1:00-1:50(06) (B. Lander)

HIST 0270B. From the Columbian Exchange to Climate Change: Modern Global Environmental History.
Environmental stories are constantly in the news, from weird weather to viral outbreaks to concerns about extinction and fracking. In this course, we put current events in the context of the past 500 years, exploring how climate, plants, animals, and microbiota – not just humans – acted as agents in history. From imperialism to the industrial revolution and from global capitalism to environmental activism, we will examine how nature and culture intermingled to create the modern world. This is an introduction to environmental history and assumes no prior courses.
Spr HIST0270B S01 24620 TTh 2:30-3:50(11) (B. Demuth)

HIST 0286A. History of Medicine I: Medical Traditions in the Old World Before 1700.
People have always attempted to promote health and prolong life, and to ameliorate bodily suffering. Those living in parts of Eurasia also developed textual traditions that, together with material remains, allow historians to explore their medical practices and explanations, including changes in their traditions, sometimes caused by interactions with other peoples of Europe, Asia, and Africa. We’ll introduce students to major medical traditions of the Old World to 1700, with emphasis on Europe, and explore some reasons for change. A knowledge of languages and the social and natural sciences is welcome but not required. P
Fall HIST0286A S01 15863 MWF 9:00-9:50(01) (H. Cook)

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 24606 MWF 9:00-9:50(02) (H. Cook)
HIST 0523P. The First World War.
On the eve of the First World War, many Europeans cheered for a “war to end all wars.” It achieved nothing of the like, instead inaugurating a century of war and unthinkable destruction. This seminar explores the history of the first truly global conflict, examining its origins, its course, its aftermath, and how it might help us better understand our own world today. A broad set of primary sources, from soldiers’ diaries to rationing cards, artwork, and diplomatic cables, forms the basis for discussion. Designed as an introduction to historical inquiry and writing.
Fall HIST0523P S01 15963 Th 4:00-6:30(04) (B. Hein)

HIST 0551A. Abraham Lincoln: Historical and Cultural Perspectives.
This seminar uses life, legacy, myth of Abraham Lincoln to explore central themes such as frontier in early republic, nature of political leadership, law/legal culture, and emergence of sectionalism, slavery, anti-slavery, Civil War. Frequent short writing assignments and research investigations allow students in-depth explorations of Lincoln’s works, the writings of his contemporaries, and modern non-fiction, fiction, and film. The course enables us to consider two larger themes: 1) the relationship between memory and history; and 2) the function of history in modern society. The course has no prerequisites and does not presuppose special knowledge of American history.
Fall HIST0551A S01 15878 M 3:00-5:30(05) (M. Vorenberg)

HIST 0556A. Sport in American History.
This course covers the relationship of sports to aspects of American culture since 1900. Topics include gender, race, amateurism, professionalism, intercollegiate athletics, and sports heroes. Enrollment limited to 19 first year students.
Fall HIST0556A S01 15881 M 3:00-5:30(05) (H. Chudacoff)

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 monarchs 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.
Fall HIST0580M S01 15880 M 3:00-5:30(05) (J. Mumford)

HIST 0656A. History of Intercollegiate Athletics.
The United States is the only country in the world in which practically every institution of higher education finances and promotes high-caliber athletics. How did this phenomenon happen? Has there ever been any resistance to its happening? How and when did African Americans integrate college sports? Did Title IX really open up opportunities for women in college sports? Are sports the “front door” of colleges and universities? This course examines these and other questions as it examines the interrelationship between the histories of sports and higher education in the U.S.
Spr HIST0656A S01 24605 MW 8:30-9:50(02) (H. Chudacoff)

HIST 0930L. History of the Holocaust (JUDS 0902).
Interested students must register for JUDS 0902.
Fall HIST0930L S01 17212 Arranged 'To Be Arranged'

HIST 1101. Chinese Political Thought from Confucius to Xi Jinping.
Xi Jinping, President of the People’s Republic of China, cites the ancient political thinker Han Feizi (280-233 BCE) as an important influence on his approach to governance. He has also embraced (as have several leaders before him) some of the political and social ideals of Confucianism—ideals first stated in the sixth century BCE. This lecture-and-discussion course traces the history of Chinese political thinking from the first Chinese state to the present, emphasizing first, those ideas that continue to shape Chinese notions of governance, and second, comparisons between these and American political ideals.
Fall HIST1101 S01 15877 TTTh 2:30-3:50(12) (C. Brokaw)

HIST 1110. Imperial China/China: Culture and Legacy.
As the current revival of Confucianism in the People’s Republic of China demonstrates, the past is still very much alive in China today. This lecture-and-discussion course surveys the history of China from the origins of the first state through the twilight of the imperial period in the nineteenth century. Lectures are designed and the reading assignments chosen to emphasize in particular those ideas and beliefs, institutions and government structures, and literary and artistic developments that have shaped (and continue to shape) China today. "Imperial China" provides the knowledge necessary for informed study of modern China.
Fall HIST1110 S01 24613 MWF 12:00-12:50(05) (C. Brokaw)

HIST 1121. The Modern Chinese Nation: An Idea and Its Limits.
How did the Chinese empire become a nation-state? This question drives a survey of the history of China, Taiwan, Hong Kong and Chinese societies overseas from 1895 to the present. We will explore a variety of conceptions of the Chinese nation and the rise of new state formations, investigating the extent to which they shaped the way people experienced everyday life. We will also pay attention to those who have been excluded by or unwillingly drafted into these processes, or who live outside them altogether, looking at other ways society has been organized and culture defined.
Spr HIST1121 S01 24611 MWF 11:00-11:50(04) (R. Nedostup)

HIST 1149. Imperial Japan.
This course is for students interested in exploring the changing ideas, technologies and practices that shaped Japan’s history from the 1850s, when it confronted the power of an encroaching West, to the 1930s when its choices led the nation to the edge of ruin. Lectures and readings will address the collapse of the Tokugawa regime, the Meiji Restoration, the construction of empire, and the emergence of new forms of cultural and political expression. Students will also learn how ideas about gender, race, and tradition were understood and made use of in Imperial Japan. Open to all students.
Fall HIST1149 S01 15867 MWF 11:00-11:50(16) (K. Smith)

Uses film, oral histories, historical fiction, and more traditional forms of historical interpretation to explore the events, ideas, and legacies of Japan's Pacific War. The armed conflict began in 1937 with the Japanese invasion of China and ended in 1945 with the atomic bombing of Hiroshima and Nagasaki. Some attention is paid to military developments, but the principle concerns fall into the areas of mutual images, mobilization, and memory.
Spr HIST1155 S01 25327 MWF 10:00-10:50(03) (K. Smith)

Explores essential social, cultural, and religious foundation blocs of Western Civilization, 200 BCE to 800 CE. The main theme is the eternal struggle between universalism and particularism, including: Greek elitism vs. humanism; Roman imperialism vs. inclusion; Jewish assimilation vs. orthodoxy; Christian fellowship vs. exclusion, and Islamic transcendence vs. immanence. We will study how ancient Western individuals and societies confronted oppression and/or dramatic change and developed intellectual and spiritual strategies still in use today. Students should be prepared to examine religious thought from a secular point of view. There is no prerequisite or assumed knowledge of the period.
Fall HIST1202 S01 15876 TTTh 1:00-2:20(08) (K. Sacks)

HIST 1230C. The Search for Renewal in 20th century Europe.
The overarching theme of the course is the relationship between modernity and the primitive as manifested in major cultural, aesthetic and political movements in the 20th century. Films are an integral part of the course.
Fall HIST1230C S01 17215 MWF 1:00-1:50(06) (M. Gluck)

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
HIST 1262F. Women, Gender, and Feminism in Early Modern Italy.
This course explores the variety of Italian women's histories, issues of gender and sexuality, and ingenious responses to circumvent the social, economic, religious, and political limitations placed upon them during the early modern period (1400-1800). Italian women produced some of the foundational texts of historical feminism, the intellectual and cultural movement that advanced the idea of equality across genders and the necessity of equal access to opportunity and education. This course surveys the alternatives proposed to the gender hierarchies of Italian society and will include selections from archival documents, letters, literature, treatises, and the visual arts.
Fall HIST1262F S01 16689 TTh 2:30-3:50(12) (C. Castiglione)

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? We'll examine the changing face of justice, from the medieval ordeal to judicial torture; expansion of inquisitorial and state law courts; and the eventual disillusionment with the use of torture and the death penalty in the eighteenth century. Using Italy as focus, the course explores how law courts defined social, political, scientific, and religious truth in Italy. Students may pursue a project on another geographical area for their final project for the course.
P Spr HIST1262M S01 24619 TTh 1:00-2:20(08) (C. Castiglione)

HIST 1266C. English History, 1529-1660.
Examines politics, religion, and society from the Protestant Reformation to the Puritan Revolution—a period of rapid and dramatic change when the world, for most English people, was turned upside down. Considers the experiences and concerns of ordinary men and women, as well as the elite. Takes in Scotland, Ireland, and the great migration to New England.
P Fall HIST1266C S01 15872 MWF 2:00-2:50(07) (T. Harris)

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 24615 MWF 2:00-2:50(07) (T. Harris)

This course examines late Soviet socialism, the collapse of the USSR, and the emergence of the new Russia. The following themes are emphasized in lectures and readings: the major features of de-Stalinization; Soviet and Russian foreign policy during and after the Cold War; the domestic and international causes and consequences of the collapse of the Soviet Union; and the emergence of a new Russian government and national identity during the 1990s and early 2000s.
Fall HIST1268C S01 15866 MWF 11:00-11:50(16) (E. Pollock)

HIST 1272D. The French Revolution.
This course aims to provide a basic factual knowledge of the French Revolution, an understanding of the major historiographic debates about the revolutionary period, and a sense of the worldwide impact of events occurring in late-eighteenth century France. A strong historiographic focus will direct our attention to the gendered nature of the revolutionary project; the tension between liberty and equality that runs throughout French history; the intersection of race and citizenship in the Revolution; and the plausibility of competing social, political, and cultural interpretations of the Revolution.
Spr HIST1272D S01 24607 TTh 10:30-11:50(09) (J. Revill)

HIST 1456. Bankrupt: An Economic and Financial History of the Middle East in the 19th and 20th Centuries.
This course critically examines the economic, and particularly, the financial history of the modern Middle East in the 19th and 20th centuries. It is structured chronologically and thematically. It starts in the mid-19th century by examining the role of European states, as well as private European investment firms and oil companies, in facilitating the colonization of the region via loans, capitulations, and extractive concession agreements. It then shifts to the post-colonial period, studying how western oil companies, banks, investment firms, and multi-national organizations shaped the trajectories of the newly-independent states in the Middle East.
Fall HIST1456 S01 15909 TTh 2:30-3:50(12) (S. Mitter)

HIST 1571. The Intellectual History of Black Women.
This course will introduce students to the intellectual productions and theoretical traditions of African American women. Focused on the canonical texts of African American women, this class gestures toward diaspora as well. Moving chronologically from the history of slavery to the present will require that we simultaneously confront the question of what counts as "intellectual" history. Thus even as we will read the written words of black feminists across time, we will also call into question what Barbara Christian calls "the race for theory," turning also to resistance practices, material culture, and bodily performance as sites of black feminist theorization.
Fall HIST1571 S01 15864 MWF 10:00-10:50(14) (E. Owens)

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 16131 TTh 1:00-2:20(08) (V. Zamindar)

HIST 1820B. Environmental History of East Asia.
With a fifth of the world's population on a twentieth of its land, the ecosystems of China, Japan, Korea and Vietnam have been thoroughly transformed by human activity. This course will explore the human impact on the environment from the first farmers to the industrial present, exploring how wildlife was eliminated by the spread of agriculture, how states colonized the subcontinent, how people rebuilt water systems, and how modern communism and capitalism have accelerated environmental change. Each week we will examine primary sources like paintings, essays, maps and poems. The course assumes no background in Asian or environmental history.
Spr HIST1820B S01 24618 TTh 10:30-11:50(09) (B. Lander)

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.
P Fall HIST1825F S01 15965 MWF 10:00-10:50(14) (T. Nummedal)
HIST 1835A. Unearthing the Body: History, Archaeology, and Biology at the End of Antiquity.
How was the physical human body imagined, understood, and treated in life and death in the late ancient Mediterranean world? Drawing on evidence from written sources, artistic representations, and archaeological excavations, this class will explore this question by interweaving thematic lectures and student analysis of topics including disease and medicine, famine, asceticism, personal adornment and ideals of beauty, suffering, slavery, and the boundaries between the visible world and the afterlife, in order to understand and interpret the experiences of women, men, and children who lived as individuals—and not just as abstractions—at the end of antiquity.
P
Spr HIST1835A S01 24612 MWF 12:00-12:50(05) (J. Conant)

HIST 1930G. Black Freedom Struggle Since 1945 (AFRI 1090).
Interested students must register for AFRI 1090.
Fall HIST1930G S01 25791 Arranged ’To Be Arranged’

HIST 1930S. Roman History II: The Roman Empire and Its Impact (CLAS 1320).
Interested students must register for CLAS 1320.
Fall HIST1930S S01 17201 Arranged ’To Be Arranged’

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 that 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.

Spr HIST1956A S01 25807 Th 4:00-4:50(17) (K. Sacks)

Cross-dressing knights, virgin saints, homophobically 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
Spr HIST1963Q S01 24792 W 3:00-3:50(10) (A. Remensnyder)

HIST 1964A. Age of Impostors: Fraud, Identification, and the Self in Early Modern Europe.
Alchemists claiming to possess the philosophers’ stone; basilisks for sale in the market; Jews pretending to be Catholics; women dressing as men: early modern Europe appeared to be an age of impostors. Officials responded to this perceived threat by hiring experts and creating courts, licenses, passports, and other methods of surveillance in an era before reliable documentation, photography, DNA. And yet one person’s fraud was another’s self-fashioning. We will examine instances of dissimulation, self-fashioning, and purported fraud, efforts to identify and stem deception, and debates about what was at stake when people and things were not what they seemed.
P
Fall HIST1964A S01 15899 Th 4:00-5:00(04) (T. Nummedal)

There were multiple forms of slavery in the Early Modern world. We will look at three major systems: Mediterranean slavery and the Barbary Corsairs, Black Sea slavery and slave elites of the Ottoman Empire, and the Atlantic triangular trade. We will examine the religious, political, racial, and economic bases for these slave systems, and compare the experiences of individual slaves and slave societies. Topics discussed include gender and sexuality (e.g. the institution of the Harem and the eunuchs who ran it), the connection between piracy and slavery, and the roles of slavery in shaping the Western world.
P
Fall HIST1964L S01 15898 Th 4:00-5:00(04) (A. Teller)

HIST 1965C. Stalinism.
In this course students will examine in detail one of the most deadly and perplexing phenomena of the twentieth century: Stalinism. Readings will introduce students to major events of Soviet history from the mid-1920s to the mid-1950s as well as debates among historians about how to interpret those events.
Spr HIST1965C S01 24622 M 3:00-5:30(13) (E. Pollock)

HIST 1968A. Approaches to the Middle East.
This seminar introduces students to the interdisciplinary field of Middle East Studies in the broader context of the history of area studies in the humanities and social sciences. Why and when did the Middle East become an area of study? What are the approaches and topics that have shaped the development of this field? And what are the political implications of contending visions for its future? The readings sample canonical and alternative works and the classes feature visits by leading scholars who research and write on this pivotal and amorphous region.
Fall HIST1968A S01 15884 W 3:00-5:30(17) (B. Doumani)

HIST 1968V. America and the Middle East: Histories of Connection and Exchange.
This seminar explores connections and exchanges between the diverse peoples of two constructed regions: the Middle East and North America. The course proceeds chronologically from the global context surrounding Columbus’s 1492 voyage, eventually focusing on US relations with the “Mideast.” But we’ll not stop there. Rather, we’ll read closely for underlying socioeconomic, diplomatic, and cultural processes—including trade, migration, education, and evolving conceptions of race, religion, and citizenship—themes often ignored by conventional histories that dwell on watershed events, personalities, or conflict. Our goal: to recognize how American-Mideast ties are far more complex, rich, and deep-rooted than is generally assumed.
Spr HIST1968V S01 24625 M 3:00-5:30(13) (F. Ahmed)

HIST 1969A. Israel-Palestine: Lands and Peoples I.
This advanced undergraduate seminar seeks to provide a deeper understanding of the links between the region now known as Israel and Palestine and the peoples that have inhabited it or have made it into part of their mental, mythical, and religious landscape throughout history. The course will be interdisciplinary at its very core, engaging the perspectives of historians, geologists, geographers, sociologists, scholars of religion and the arts, politics and media. At the very heart of the seminar is the question: What makes for the bond between groups and place - real or imagined, tangible or ephemeral. No prerequisites required.
Fall HIST1969A S01 15882 W 3:00-5:30(17) (O. Bartov)

HIST 1969C. Debates in Middle Eastern History.
This seminar investigates the historical bases of some of the major debates which continue to dominate contemporary discussions on the Middle East. These include debates on colonialism and its legacies; problems associated with the post-colonial Middle Eastern state (the "democracy deficit": human rights; oil; political Islam); and arguments about the causes and consequences of some of the major events in Middle Eastern history (the Israeli-Palestinian conflict; the Iranian revolution; the Lebanese civil war; 9/11 and the Iraq invasion; and the Arab Spring).
Spr HIST1969C S01 24627 M 3:00-5:30(13) (S. Mitter)

HIST 1969D. Palestine versus the Palestinians.
This course explores alternatives to the common view that the Palestinian-Israeli conflict is a struggle between two nationalist movements over the same land. Moving away from state-centric political discourse, it engages the questions of imperialism, settler-colonialism, and displacement from a bottom-up perspective of everyday life of Palestinian communities in historic Palestine and the Diaspora. How do these internally divided and spatially fragmented communities negotiate the present and imagine the future? Ultimately, the course asks: What does it mean to be a Palestinian? And what can the Palestinian condition teach us about the modern world?
Spr HIST1969D S01 25811 W 3:00-5:30(10) (B. Doumani)
This seminar examines the major themes and events in the history of the Middle East in the 20th century through a close reading of literary texts and, in some cases, films. Throughout the course we will try to locate the perspectives of the “ordinary people” of the region, and will pay special attention to the voices of those who are rarely heard from in discourses on the Middle East: religious minorities, sexual minorities, women, children, but also criminals, misfits, misanthropes and others who have been deemed social outcasts.
Spr HIST1969F S01 25182 Th 4:00-6:30(17) (S. Mitter)

The digital revolution is transforming the study of history. But is it allowing us to better recover the voices and lived experiences of people in the past? This course considers the possibilities and pitfalls of using digital tools to understand the lives of enslaved men and women in the Americas between 1500 and 1800. Each session considers a different digital humanities project, supplemented by primary sources and recent books. For their final project, students will contribute to the Database of Indigenous Slavery in the Americas, which is hosted here at Brown. There are no prerequisites for this course. P
Spr HIST1970G S01 25172 Th 4:00-6:30(17) (L. Fisher)

Undergraduate seminar on the United States and international law. Focuses mainly on the period before the twentieth century. Examines subjects such as the right of revolution; the evolution of U.S. Constitution law; law as an instrument of economic development and exploitation; and the evolution of rights-consciousness—all within the context of international law. Enrollment limited to 20. Students should contact the instructor before the beginning of the semester if they are interested in taking the course. Instructor permission required.
Spr HIST1972A S01 24623 M 3:00-5:30(13) (M. Vorenberg)

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—together 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 reproductive technologies.
Spr HIST1977I S01 25421 W 3:00-5:30(10) (D. Rodriguez)

This seminar explores the history of French colonial Indochina (Vietnam, Cambodia, Laos) from 1858 to 1945. Challenging Euro-centric narratives of colonialism, we will critically analyze the colonial encounter as complex exchanges, geographically diverse, and socially uneven. We will examine the mechanisms and limitations of the colonial state, capitalism, cultural institutions, and science and technology. Rather than position colonialism as an external agent of change, this seminar dedicates attention to local agency, social and cultural transformations, and the creative production of ideas, print media, and urban and religious communities especially in 1920’s to 1940’s Hanoi, Saigon, and Phnom Penh.
Fall HIST1978D S01 15900 Th 4:00-6:30(04) (C. Nguyen)

Interested students must register for JUDS 1726.
Fall HIST1981D S01 17214 Arranged 'To Be Arranged'

Interested students must register for ENVS 1910.
Fall HIST1981F S01 17193 Arranged 'To Be Arranged'

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.

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.
Fall HIST1992 S01 16901 M 3:00-5:30(05) (H. Case)

HIST 1992 and HIST 1993 students meet together as the History Honors Workshop, offered in two separate sections per week. All students admitted to the History Honors Program must enroll in HIST 1993 for two semesters of thesis research and writing. They may enroll in the course during semesters 6 and 7, or 7 and 8. Course work entails researching, organizing, writing a history honors thesis. Presentation of work and critique of peers’ work required. Limited to seniors and juniors who have been admitted to History Honors Program. HIST 1993 is a mandatory S/NC course. See History Concentration Honors Requirements.
Fall HIST1993 S01 16905 Arranged (H. Case)

HIST 2450. Exchange Scholar Program.
Fall HIST2450 S01 15493 Arranged 'To Be Arranged'
Fall HIST2450 S02 15494 Arranged 'To Be Arranged'
Spr HIST2450 S01 24292 Arranged 'To Be Arranged'

HIST 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 a preliminary examination.
Fall HIST2890 S01 15495 Arranged 'To Be Arranged'
Spr HIST2890 S01 24293 Arranged 'To Be Arranged'

HIST 2910. Reading and Research.
Section numbers vary by instructor. Please see check Banner for the correct section number and CRN to use when registering for this course.

HIST 2930. Colloquium.
"The Theory and Practice of History” encourages critical thinking about some of the different ways in which historians approach thinking and writing about the past. In particular, we will explore some of the major theoretical stances that have influenced the discipline of history. Our focus throughout will be the interplay between theory and practice. By examining how historians have grappled with questions posed by influential thinkers (often working within other fields of knowledge), we will chart the trajectory of the discipline and assess its working methods. Required for all incoming PhD students in History.
Fall HIST2930 S01 16167 W 3:00-5:30(17) (K. Smith)

HIST 2940. Writing Workshop.
Required of all 3rd semester Ph.D. students.
Fall HIST2940 S01 15905 T 10:30-1:00 (E. Owens)

HIST 2950. Professionalization Seminar.
Required of all second year Ph.D. students.
Spr HIST2950 S01 24974 Th 10:30-1:00 (H. Cook)
HIST 2960. Prospectus Development Seminar. This collaborative seminar focuses on identifying and contextualizing a dissertation topic; choosing a dissertation committee and a support network; designing and executing plans for research and writing; and articulating a thesis project as a prospectus, grant proposal, and other oral and written forms. This is a required course for and open only to third-year students in the History Ph.D. program. enroll limited to 50.

HIST 2970C. Rethinking the Civil Rights Movement. This graduate course encourages a rethinking of the complex components, arguments and activities that have characterized what we have come to know as the Civil Rights Movement, concentrating primarily on African American agency, actions and politics, through careful reading of recent scholarship in the field. While knowledge of U.S. history is preferred, this course asks larger thematic questions about protest movements (the role of the state, relationships with and between oppressed groups and organizations, and periodization), that will interest non-Americanists also. Some of the topics covered include: gender, organizing and strategies, the local, global ramifications and interactions, organizational structures and politics, and the recent concept of the Long Civil Rights Movement. 106

HIST 2971L. New Perspectives on Medieval History. Over the past several decades, the field of medieval history has been reshaped radically. New approaches have changed the ways in which medievalists think about old subjects. Our understanding of medieval society itself has expanded as previously marginalized or unexplored subjects have become central to medievalists’ concerns. This seminar explores the ways in which medievalist historians have altered how they practice their craft in response to these developments. Readings in classic older works are juxtaposed with newer ones on the way to becoming classics themselves. 106

HIST 2980W. First Person History in Times of Crisis: Witnessing, Memory, Fiction. This seminar examines the relationship between History as a narrative of events and history as individual experience. Postulating that historical events as related by historians were experienced in numerous different ways by their protagonists, the seminar focuses on the complementary and contradictory aspects of this often fraught relationship at times of crisis, especially in war and genocide. While much time will be spent on World War II and the Holocaust, the seminar will engage with other modern wars and genocides across the world. Materials will include eyewitness reports, postwar testimonies and trial records, memoirs and relevant works of fiction. Open to graduate students only. 106

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

HIST 2993. Gender Matters (ITAL 2550). Interested students must register for ITAL 2550.

History of Art and Architecture

HIAA 0010. A Global History of Art and Architecture. Introduction to the global history of art, architecture and material culture from cave paintings to installation art. The course is both an historical survey as well as an analysis of case study examples. In addition to examining visual strategies of representation, the course explores the varied ways in which art shapes and reflects cultural, social, religious, and political concerns. Weekly one-hour conference required. Limited to 225. A

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, Frederic 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.

HIAA 0100. Introduction to Architectural Design Studio. Introduces students to basic tools and strategies in architectural design. A number of exercises will introduce students to questions about form, function and structure and teach them to learn from close observation of the built environment. The second half of the semester is devoted to the design of a small house by each student, which will be presented in a scale model and a full set of drawings at the end of the semester. A jury of invited architects and professors will conduct a discussion of each project. Enrollment limited to 15. Instructor permission required.

HIAA 0900. City and Cinema. An examination of the mutual influence between two of the major art forms of the 20th century: film and architecture. Concentrates on European and American film sets throughout the 20th century and explores their formal and iconographical sources in contemporary architectural discourse. Presentation and examination of sketches, paintings, still photographs, and film clips as well as writings by directors, set designers, critics, and architects (Eisenstein, Reimann, Kracauer, Bunuel and many others).

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 honorific arches. The class also considers how these ideas entered the private realm in the form of domestic wall paintings, mosaics, and sculpture gardens.

HIAA 1550C. Dreaming of Food in the Early Modern World. Floods, wars, trade, climate change, class distinctions, carnivals and public feasts kept food at the forefront of the early modern imagination. Focusing on Italy, but including its global connections, we will look at the cultures of food as the material of art and literature in markets, vineyards, courts, recipe books, medicine, kitchens, and the dreams of the hungry. Investigating the cultivation, presentation and consumption of food through related arts and the evolution of manners allows us to consider the design of tableware, food sculpture, and tapestries alongside more canonical arts. Some previous art history required, languages helpful. Upperclass seminar.

For up-to-date course information please visit Courses@Brown.edu (https://cabs.brown.edu).
**HIAA 1990. Honors Thesis.**
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 2450. Exchange Scholar Program.**
Fall HIAA2450 S01 15488 Arranged "To Be Arranged"

**HIAA 2940. Master’s Qualifying Paper Preparation.**
Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

**HIAA 2980. Individual Reading (Single Credit).**
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 2981. Individual Reading (Double Credit).**
Double credit. 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.**
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 15489 Arranged "To Be Arranged"
Spr HIAA2990 S01 24288 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 15490 Arranged "To Be Arranged"
Spr HIAA2991 S01 24289 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 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 1809C. Senior Thesis Preparation.**
Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course. Reserved for Development Studies seniors.

**IAPA 1817A. Senior Honors Thesis.**
Open only to Senior students accepted into the honors program in international relations. Instructor permission required.

**IAPA 1818A. Individual Research Project.**
Limited to juniors and seniors. Section numbers vary by instructor.
Required: A completed proposal form and syllabus, sponsor's and concentration advisor's approval, and written permission from Dr. Elliott (following review of the proposal) prior to registering for any section of this course. Banner overrides will be given by the IR Program manager only, and no overrides will be issued after the Registrar's course add deadline.

**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 16078 MW 10:30-11:50 (13) (C. Abbona-Sneider)
Fall ITAL0100 S02 16078 Th 10:30-11:50 (13) (C. Abbona-Sneider)
Fall ITAL0100 S02 16083 Th 12:00-12:50 (13) (C. Abbona-Sneider)
Fall ITAL0100 S03 16084 MW 10:00-10:50 (13) (C. Abbona-Sneider)
Fall ITAL0100 S03 16084 Th 10:30-11:50 (13) (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.
Spr ITAL0110 S01 24734 MTWTh12:00-1:50 (C. Abbona-Sneider)

**ITAL 0200. Elementary Italian.**
See Elementary Italian (ITAL 0100) for course description.
Spr ITAL0200 S01 24726 MW 1:00-1:50 (08) (C. Abbona-Sneider)
Spr ITAL0200 S01 24728 Th 1:00-2:00 (08) (C. Abbona-Sneider)
Spr ITAL0200 S02 24729 MW 12:00-12:50 (08) (C. Abbona-Sneider)
Spr ITAL0200 S02 24729 Th 1:00-2:00 (08) (C. Abbona-Sneider)
Spr ITAL0200 S03 24730 MW 10:00-10:50 (08) (C. Abbona-Sneider)
Spr ITAL0200 S03 24730 Th 1:00-2:00 (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 16085 MWTh 1:00-1:50 (C. Abbona-Sneider)
Fall ITAL0300 S02 16086 MWTh 12:00-12:50 (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 24731 MTWTh 1:00-1:50 (C. Abbona-Sneider)
Spr ITAL0400 S02 24732 MTWTh 12:00-12:50 (C. Abbona-Sneider)

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

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, composition, oral presentations, and a final paper. Prerequisite: ITAL 0500, placement by examination.

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.

ITAL 1020. Boccaccio's Decameron.
Close study and discussion of Boccaccio's collection of 100 tales told by ten young Florentines over a period of two weeks, while in flight from the devastating plague of 1348. The Decameron defined the standard of Italian prose narrative for four centuries and deeply influenced Renaissance drama. We will also pay particular attention to visualizations and adaptations of the Decameron into a variety of media, from manuscript illumination to painting, theatre and film. Students will contribute to the Decameron Web, the award-winning Boccaccio web site administered by the department of Italian Studies. Sections in English and Italian. Enrollment limited to 40.

ITAL 1262. Women, Gender, and Feminism in Early Modern Italy.
This course explores the variety of Italian women's histories, issues of gender and sexuality, and ingenious responses to circumstances throughout the social, economic, religious, and political limitations placed upon them during the early modern period (1400-1800). Italian women produced some of the foundational texts of historical feminism, the intellectual and cultural movement that advanced the idea of equality across genders and the necessity of equal access to opportunity and education. This course surveys the alternatives proposed to the gender hierarchies of Italian society and will include selections from archival documents, letters, literature, treatises, and the visual arts.

ITAL 1390. Modern Italy.
A look at the dramatic events that transformed Italy over the past two centuries and the ways that this history has been represented in film. For the nineteenth century, the focus is on the violent birth of the modern Italian nation-state. For the twentieth century, the course focuses on the transformation of Italian history, the course investigates the many issues involved in turning a book of history into a commercial film.

ITAL 1400T. From the Hypernovel to Paranoid Fiction.
How can storytelling help us cope with complexity? How can novels help us detect and debunk conspiracy theories? We will read major works by Italian fiction masters Italo Calvino (If On A Winter's Night A Traveler, 1979) and Umberto Eco (The Name of the Rose, 1980, Foucault's Pendulum, 1988, The Prague Cemetery, 2010), tackling the paradoxes of "fake news" and "conspiratorial evidence" from Luther Blissett's Q (1999) to Q'Anon. Taught in English with a discussion section in Italian.

ITAL 1610. The Divina Commedia: Inferno and Purgatorio.
A close reading of the first two canticles of Dante’s poem in the light of contemporary European and American critical interpretations. In Italian. Enrollment limited to 40.

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 2450. Exchange Scholar Program.
Fall ITAL2450 S01 15497 Arranged "To Be Arranged"
Spr ITAL2450 S01 24295 Arranged "To Be Arranged"

ITAL 2550. Gender Matters.
This course examines the impact of gender as a category of analysis, focusing upon its varied repercussions on the study of history, with Italian history serving as one field of focus. Participants interested in other geographical, chronological, and disciplinary areas will have ample time to pursue their interests. The study of gender has profoundly shaped the practice of history in the last half century, and the course outlines its impact and its transformations. The course places in conversation diverse but overlapping historical developments: the impact of the study of gender on history; influences from beyond history that have shaped or reshaped historians' approach to gender and sexuality; the particular inflections of the study of gender in the case of Italy (1400-1800); the impact of the turn to study of sexuality and queer studies. The course explores and critiques the limits of our gender constructs (theoretical, methodological, and modern) for explaining the culture of people in the premodern world and beyond the western hemisphere, fields of scholarship where the universality of contemporary notions of gender have been challenged. In English.

ITAL 2760. Colloquium on the Invention of Print and the Book.
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.

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

Fall ITAL2990 S01 15499 Arranged "To Be Arranged"
Spr ITAL2990 S01 24297 Arranged "To Be Arranged"

Judaic Studies

Hebrew

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 15756 TTh 1:00-2:20(06) (R. Adler Ben Yehuda)
Fall HEBR0100 S01 15756 MWF 1:00-1:50(06) (R. Adler Ben Yehuda)

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 15757 TTh 12:00-12:50(15) (R. Adler Ben Yehuda)
Fall HEBR0300 S01 15757 MWF 12:00-12:50(15) (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 Israeli current events draw on Israeli stories, poems, 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 15758 TTh 2:30-3:50(12) (R. Adler Ben Yehuda)

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 15764 MWF 10:00-10:50(12) (D. Jacobson)

JUDS 0050H. Israel’s Wars.
Israel’s history has unfolded under the shadow of its prolonged conflict with the Palestinians and its Arab neighbors. This first year seminar will survey the military aspect of this conflict. The major aim of the course is to present an historical survey of the Israeli-Arab wars and Jewish-Palestinian encounters in the 20th century. This will provide some of the necessary background for understanding the present phase of the Arab-Israeli conflict in the Middle East, and help in comprehending the roots and causes of contemporary controversies between Israel and the Palestinians and/or its Arab neighboring states. Enrollment limited to 19 first-year students.

Fall JUDS0050H S01 15761 TTh 10:30-11:50(13) (R. Rojanski)

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 15760 TTh 9:00-10:20(02) (S. Olyan)

JUDS 0065. Ancient Israelite and Jewish Narrative and Artistic Image.
Ancient Israel produced a great body of narrative art that is preserved in the Bible—Genesis, Exodus, the warriors of Judges, the story of David’s founding of Israel and the succession to Solomon. The Jewish culture that followed extended the story-telling tradition in new directions—Daniel, the “novel women” of Esther, Susanna, and Judith. These brilliant and powerful stories inspired equally powerful images in art and sculpture. Both story and image still affect us. This course will explore the ancient narratives as story and the art they inspired as visual image.

Fall JUDS0065 S01 16097 TTh 4:00-5:30(09) (P. Nahme)

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.

Fall JUDS0902 S01 15763 TTh 1:00-2:20(08) (A. Teller)

JUDS 1635. Problems in Israelite History.
Topics of recent and current debate among specialists in the field of Israelite history. Problems include (1) the historicity of the patriarchs and matriarchs; (2) the historical evidence relevant to the question of an Exodus; (3) the nature of Israel’s settlement in Canaan; (4) the 10th century, era of empire or literary fiction? (5) the land of Judah after the Babylonian conquest. Enrollment limited to 20.

Fall JUDS1635 S01 15765 W 3:00-5:30(17) (S. Olyan)
The seminar explores the relationship between humor, popular culture and Jewish ethnic identity in early 20th-century Europe and America. It argues that self-deprecating humor and satiric performance of Jewish stereotypes were not expressions of self-hatred, but complex cultural gestures that led to integration within mainstream society. Topics to be considered are: the joke as a social gesture; the Jewish music hall as an urban institution; the politics of blackface in American Vaudeville; the East-European Jews in Hollywood.
Fall JUDS1726 S01 15766 Th 4:00-6:30(04) (M. Gluck)

Interested students must register for HIST 1964L.
Fall JUDS1728 S01 17213 Arranged "To Be Arranged"

JUDS 1746. Renewal in 20th Century Europe (HIST 1230C).
Interested students must register for HIST 1230C.
Fall JUDS1746 S01 17217 Arranged "To Be Arranged"

JUDS 1753. Blacks and Jews in American History and Culture.
African Americans and American Jews have interacted throughout the history of the United States. Through readings, images, and films, this course will explore this complex, sometimes tortured relationship in its religious, cultural and political aspects. It will discuss the role of Jews in the slave trade, the contributions of both groups to American popular culture, both groups' involvement in the struggle for the Civil Rights Act of 1964, the rise of Black Power, attitudes to Zionism, affirmative action and more. We will try to answer the question how the experiences of both groups both overlapped and led to conflict.
Fall JUDS1753 S01 15767 Th 4:00-6:30(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.

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 media 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 15807 MTWThF 11:00-11:50 (H. Nowicki)
Fall SIGN0100 S02 15808 MTWThF 10:00-10:50 (H. Nowicki)
Fall SIGN0100 S03 15809 MTWThF 9:00-9:50 (T. Riker)
SIGN 0200. American Sign Language I, II.
Introduces basic ASL conversation. Features core vocabulary, common signing phrases, non-manual components (facial expression, body postures), signing space, fingerspelling, numbers, loan signs, cultural protocols, rules of ASL grammar and structure. Deaf cultural behavior is introduced in the classroom and through readings, videotapes, and Deaf community events.
This is the second half of a year-long course. Students must have taken SIGN 0100 to receive credit for this course. If SIGN 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.
Fall SIGN0200 S01 25018 MTWThF 11:00-11:50 (H. Nowicki)
Fall SIGN0200 S02 25019 MTWThF 10:00-10:50 (H. Nowicki)
Fall SIGN0200 S03 25020 MTWThF 9:00-9:50 (T. Riker)

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 literacy, and education. Prerequisite SIGN0200 or placement interview.
Fall SIGN0300 S01 15811 MWF 1:00-1:50(06) (T. Riker)
Fall SIGN0300 S02 15966 MWF 2:00-2:50(07) (T. Riker)

SIGN 0400. American Sign Language IV.
Intensive use of expressive and receptive skills in complex grammatical structures, advanced classifiers, dialogues, and storytelling techniques. Discussion of social factors that give rise to code-switching; regional and ethnic sign variations; social, political, and cultural evolution of U.S. Deaf community. Interaction with Deaf community in directed and non-directed activities. Prerequisite SIGN 0300 or placement interview.
Spr SIGN0400 S01 25021 MWF 1:00-1:50(06) (T. Riker)
Spr SIGN0400 S02 25022 MWF 2:00-2:50(07) (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 formal and informal discussions, presentations, and storytelling. Through authentic materials from diverse sources, students will explore American Sign Language literature and oral traditions. Prerequisite SIGN0400 or placement interview.
Fall SIGN0500 S01 15810 MWF 2:00-2:50(07) (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.

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

**ARAB 0100. First-Year Arabic.**
Builds basic listening, speaking, reading, and writing skills, introducing the Arabic language in its cultural environment. Five 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 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 ARAB 0200 covers the entire year and is recorded as the final grade for both semesters. If course is full, please sign the wait list in Room 205, 195 Angell Street. Enrollment limited to 18.

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<tr>
<th>Semester</th>
<th>Section</th>
<th>CRN</th>
<th>Days</th>
<th>Time</th>
<th>Instructor</th>
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**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.

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<tr>
<th>Semester</th>
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<th>Instructor</th>
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<td>(E. Belmont Flores)</td>
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**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 0300. This is the second half of a year-long course. Students must have taken ARAB 0300 to receive credit for this course.

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<th>Semester</th>
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<th>Time</th>
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<td>(A. Hassan)</td>
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**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.

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<tr>
<th>Semester</th>
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<th>CRN</th>
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**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.

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<tr>
<th>Semester</th>
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<th>CRN</th>
<th>Days</th>
<th>Time</th>
<th>Instructor</th>
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**ARAB 0700. Advanced Arabic: Tales of the City.**
The Arab city, current site of a major political upheaval, is the central theme of this integrated-skill language and culture course. Images of cities, as multifaceted as the people who inhabit them, animate cinema screens and daily news reports, inspire masters of writing, artists, and musicians, arouse political activism. By engaging the complex representation of the urban theme in contemporary discursive and art forms, this course will enhance students' understanding of the dynamics of urban politics and culture in the Middle East, while building a content-specific lexicon and advanced communicative ability. Prerequisite: ARAB 0600, or an equivalent. Enrollment limited to 12.

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<th>Semester</th>
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<th>Instructor</th>
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**ARAB 1990. Special Topics in Arabic Language, Literature, and Culture.**
Advanced level integrated skill course focusing on specific reading and writing topics derived from the traditions and arts of the Arabic language. Course prerequisites include advanced capacity in Arabic grammar and reading comprehension. Enrollment limited to 10.

**ARAB 2450. Exchange Scholar Program.**

<table>
<thead>
<tr>
<th>Semester</th>
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<th>CRN</th>
<th>Instructor</th>
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<td>Fall</td>
<td>ARAB2450 S01 15448</td>
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### Catalan

**CATL 1910. Independent Study in Catalan.**
An open content course, which may be offered each semester. Offered as an Independent Study, this course will be adapted to students' needs that are not currently covered by our curricular offerings.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
English for Internationals
EINT 2200. Academic Interactions.
This course develops the English language skills of first-year international graduate students who are preparing to be teaching assistants. Students improve their fluency and expression of complex ideas in a variety of linguistic situations typical of classroom interactions. Students also increase their control of vocabulary, pronunciation and listening comprehension when communicating with American undergraduates. Instructor permission required.
Fall EINT2200 S01 15700 MTWTh 12:00-12:50 (M. Leuchak)
Spr EINT2200 S01 24997 MTWTh 12:00-12:50 (M. Leuchak)

EINT 2300. Negotiating an American Classroom.
In this course, international graduate students increase their abilities to communicate accurately and fluently in English with American undergraduates. International students develop their ability to interact, in culturally appropriate ways, in a variety of teaching situations common to the institution of higher education, where they are responsible for expressing and explaining complex information and ideas in English. Instructor permission required.
Fall EINT2300 S01 15701 MTWTh 12:00-12:50 (B. Gourlay)
Spr EINT2300 S01 24998 MTWTh 12:00-12:50 (B. Gourlay)

EINT 2400. Speaking Professionally for Internationals.
This course develops the English communication skills of international graduate students with an emphasis on intelligibility of speech and clarity of expression in a variety of teaching and professional situations (e.g. presenting material, responding to questions, directing discussions). Students develop increased facility of English in extended discourse when they are the authority in a teaching or other professional context. Instructor permission required.
Fall EINT2400 S01 15702 MW 9:00-9:50 (M. Leuchak)
Fall EINT2400 S02 15703 TTh 9:00-9:50 (M. Leuchak)
Spr EINT2400 S01 25000 MW 9:00-9:50 (M. Leuchak)
Spr EINT2400 S02 25001 TTh 9:00-9:50 (M. Leuchak)

EINT 2500. Advanced Articulation Tutorial.
This course is an advanced pronunciation tutorial for international graduate students who have achieved a near-native speaker level of fluency in English, but who require greater precision of English articulations, pronunciation, fluency and/or expression. Instructor permission required.
Fall EINT2500 S01 15704 MTWTh 11:00-11:50 (B. Gourlay)
Fall EINT2500 S02 15705 MTWTh 11:00-11:50 (M. Leuchak)
Spr EINT2500 S01 25002 MTWTh 11:00-11:50 (B. Gourlay)
Spr EINT2500 S02 25003 MTWTh 11:00-11:50 (M. Leuchak)

Hindi-Urdu
HNDI 0100. Beginning Hindi or Urdu.
Introduces conversation, reading, and writing of modern standard Hindi and the Devanagari script. Those who already know Devanagari but have rusty conversation skills may join the class second semester; obtain instructor’s permission during the first semester. Those who prefer to learn Urdu and the Persian script should contact the instructor. Fall HNDI0100 S01 15546 MTWThF 12:00-12:50 (A. Koul)

HNDI 0200. Beginning Hindi or Urdu.
Introduces conversation, reading, and writing of modern standard Hindi and the Devanagari script. Those who already know Devanagari but have rusty conversation skills may join the class second semester; obtain instructor’s permission during the first semester. Those who prefer to learn Urdu and the Persian script should contact the instructor. Prerequisite: HNDI 0100.
Spr HNDI0200 S01 24478 MTWThF 12:00-12:50 (A. Koul)

HNDI 0300. Intermediate Hindi-Urdu.
A continuation of HNDI 0100-0200, which is a prerequisite. Introduces the variation of the Arabic script used for Urdu. Prepares students to communicate in written and spoken language. Activities are conducted in Hindi/Urdu. Meets four hours weekly.
Fall HNDI0300 S01 15548 Th 4:00-5:00(06) (A. Koul)
Fall HNDI0300 S01 15548 MWF 1:00-1:50(06) (A. Koul)

HNDI 0400. Intermediate Hindi-Urdu.
A continuation of HNDI 0100-0200. Introduces the variation of the Persian script used for Urdu. Prepares students to communicate in written and spoken language. Activities are conducted in Hindi/Urdu. Meets four hours weekly. Prerequisite: HNDI 0300.
Spr HNDI0400 S01 24479 Th 4:00-5:00(06) (A. Koul)
Spr HNDI0400 S01 24479 MWF 1:00-1:50(06) (A. Koul)

HNDI 1080. Advanced Hindi-Urdu.
Each student follows an independent reading list determined in consultation with the instructor. The readings may include folk tales, journalistic prose, 20th-century literature, classical Urdu poetry of the 17th to 19th centuries, or subjects in nonfiction. The class meets together three hours weekly for discussion. Each student also spends one hour weekly with the instructor. Prerequisite: HNDI 0400.
Fall HNDI1080 S01 15547 Arranged (A. Koul)
Spr HNDI1080 S01 24480 Arranged (A. Koul)

Language Studies
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 2900. The Theory and Practice of Foreign Language Learning and Teaching.
The course is intended for graduate students in departments of foreign languages and literatures, who are interested in acquiring a theoretical understanding of second language acquisition (SLA) and language teaching methodologies and, by extension, developing a pedagogically sound teaching practice, grounded in research.
Spr LANG2900 S01 24777 Th 9:00-11:30 (J. Sokolosky)

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.
Fall PRSN0100 S01 15706 MTWThF 12:00-12:50 (I. Anvar)

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.
Spr PRSN0200 S01 24981 MTWThF 12:00-12:50 (I. Anvar)

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.
Fall PRSN0300 S01 15714 Arranged (I. Anvar)
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. Spr PRSN0400 S01 24982 Arranged (I. Anvar)

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 15715 Arranged (I. Anvar)

PRSN 0600. Advanced Persian Language and Culture II.
Designed for students who have completed PRSN 0500 or have acquired language skills above the advanced level through other means. The main goal of the course is to improve speaking, listening, reading and writing skills and promote exposure to the language and culture through in depth study of samples of Persian literature, history, journals, newspapers, radio and TV material to advance mastery of contemporary literature. Students will be motivated to communicate both in written and spoken Persian by utilizing adequate grammatical order and vocabulary. Activities will include poetry reading, informal gatherings and translation from and into Persian. Prerequisite: PRSN 0500. Spr PRSN0600 S01 24983 Arranged (I. Anvar)

PRSN 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.

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 integrates 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. Enrollment limited to 18. Fall TKSH0100 S01 15549 Arranged (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 25006 Arranged (E. Ozdemir)

TKSH 0300. Intermediate Turkish.
This course is the continuation of TKSH 0200 designed for students who are interested in learning about other cultures and languages. New students can place into it, after special arrangements with the instructor. The course places equal emphasis on the development of the four language skills: speaking, listening, reading and writing. It combines an emphasis on the development of communication skills with an understanding of language structures and grammar and insights into Modern Turkish society and culture. There will be one additional hour TBD in consultation with the instructor and students. Fall TKSH0300 S01 15550 Arranged (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 advance 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 25007 Arranged (E. Ozdemir)

Yoruba

YORU 0100. Introduction to Yoruba I.
The first semester of a two-semester beginner's course in Yoruba Language and Culture. This class aims to offer Yoruba language skills and proficiency in speaking, reading, listening, writing, and translation. Focus is placed on informal and formal contexts, e.g., home, school, work, family, social situations, politics, etc. First semester focuses on conversation, speaking, and listening. Both semesters are required in order to earn credit in the course. This class is offered through distance learning from Cornell to a class of no more than 4 students. You must attend class on the first day of the semester to be considered. One hour to be arranged. Fall YORU0100 S01 15564 MWF 9:00-9:50(01) 'To Be Arranged'

YORU 0200. Introduction to Yoruba II.
The second semester of a two-semester beginner's course in Yoruba Language and Culture. This class aims to offer Yoruba language skills and proficiency in speaking, reading, listening, writing, and translation. Focus is placed on informal and formal contexts, e.g., home, school, work, family, social situations, politics, etc. Course uses Yoruba oral literature, proverbs, rhetoric, songs, popular videos, and theater, as learning tools for class comprehension. First semester focuses on conversation, speaking, and listening. Both semesters are required in order for students to earn credit in the course. This class is offered to Brown students through distance learning. The instructor broadcasts from the Cornell campus to a Brown classroom of no more than 3 students. You must attend class on the first day of the semester to be considered. One hour to be arranged. Spr YORU0200 S01 25004 MWF 9:00-9:50(02) 'To Be Arranged'

YORU 0300. Intermediate Yoruba I.
Prerequisite: YORU 0200 or instructor's approval. Learners will be able to read basic Yoruba texts and understand them. They are introduced to Yoruba literature. Learners will be able to listen to basic dialogue in Yoruba language as spoken by native speakers and understand them. Some of these may include some radio jingles. Learners will be able to describe basic situations such as their apartment, give directions, describe their first day in school, describe their first day at work etc. Learners will be introduced to some current affairs and social, artistic and cultural events and issues in Nigeria. This class is offered to Brown students through distance learning. The instructor broadcasts from the Cornell campus to a Brown classroom of no more than 3 students. You must attend class on the first day of the semester to be considered. One hour to be arranged. Fall YORU0300 S01 15565 MWF 2:00-2:50(07) 'To Be Arranged'

YORU 0400. Intermediate Yoruba II.
Prerequisite: YORU 0300 or instructor's approval. Learners will be able to speak and read Yoruba texts at ACTFL/LRL level 1/1+. Learners will be able to write a basic Yoruba text which compares two cultures-a Nigerian / African Culture and a non-Nigerian/African culture at a level comparable to their oral proficiency- ACTFL level 1/1+. Learners will be able to discuss some aspects of African cultural lives such as education, fashion, music etc. Learners will be able to write Yoruba with tones. This class is offered to Brown students through distance learning. The instructor broadcasts from the Cornell campus to a Brown classroom of no more than 3 students. You must attend class on the first day of the semester to be considered. One hour to be arranged. Spr YORU0400 S01 25005 MWF 2:00-2:50(07) 'To Be Arranged'

For up-to-date course information please visit Courses@Brown.edu (https://cabs.brown.edu).
Latin American and Caribbean Studies

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. Students must have significant prior coursework, language skills, and sufficient background knowledge to put together a comprehensive reading list and to produce a final paper that meets the research requirement in the LACA concentration.

Class requirements include weekly meetings with the instructor, reading responses submitted before each meeting, and a self-assessment at the end of the semester by the student. The independent study will culminate in a research paper of sufficient depth and sophistication to meet the research requirement for the concentration in Latin American and Caribbean Studies.

Registration requires a comprehensive reading list developed by the student in consultation with the faculty member and a written agreement on course requirements. The concentration advisor’s approval is required if the course is to count toward the concentration.

No more than two (2) semesters of LACA 1994/1995 may be used toward concentration requirements in Latin American and Caribbean Studies.

For upper-division students interested in pursuing topics in Latin American and Caribbean Studies not currently taught in the Brown curriculum. Students must have significant prior coursework, language skills, and sufficient background knowledge to put together a comprehensive reading list and to produce a final paper that meets the research requirement in the LACA concentration.

Class requirements include weekly meetings with the instructor, reading responses submitted before each meeting, and a self-assessment at the end of the semester by the student. The independent study will culminate in a research paper of sufficient depth and sophistication to meet the research requirement for the concentration in Latin American and Caribbean Studies.

Registration requires a comprehensive reading list developed by the student in consultation with the faculty member and a written agreement on course requirements. The concentration advisor’s approval is required if the course is to count toward the concentration.

No more than two (2) semesters of LACA 1994/1995 may be used toward concentration requirements in Latin American and Caribbean Studies.

Literary Arts

LITR 0100A. Introduction to Fiction.
A workshop for first year students, introducing them to the art of writing fiction. This course is reading and writing intensive. Enrollment limited to 17. S/NC required.

Fall LITR0100A S01 15835 F 3:00-5:30(11) "To Be Arranged"
Spr LITR0100A S01 24574 F 3:00-5:30(15) "To Be Arranged"

LITR 0100B. Introduction to Poetry.
A workshop for first year students, introducing them to the art of writing poetry. This course is reading and writing intensive. Enrollment limited to 17. S/NC required.

Fall LITR0100B S01 15836 F 3:00-5:30(11) "To Be Arranged"
Spr LITR0100B S01 24575 F 3:00-5:30(15) "To Be Arranged"

LITR 0110A. Fiction I.
A workshop for students who have little or no previous experience in writing fiction. Enrollment limited to 17 per section. This course is limited to undergraduates. S/NC.

Fall LITR0110A S01 15837 T 6:40-9:10PM "To Be Arranged"
Fall LITR0110A S02 15838 W 5:45-8:15PM "To Be Arranged"
Fall LITR0110A S03 15839 Th 6:40-9:10PM "To Be Arranged"
Spr LITR0110A S01 24576 M 5:45-8:15PM "To Be Arranged"
Spr LITR0110A S02 24577 T 6:40-9:10PM "To Be Arranged"
Spr LITR0110A S03 24578 W 5:45-8:15PM "To Be Arranged"
Spr LITR0110A S04 25540 Th 12:00-2:30 (L. Hunt)

LITR 0110B. Poetry I.
A workshop for students who have little or no previous experience in writing poetry. Enrollment limited to 17 per section. This course is limited to undergraduates. S/NC.

Fall LITR0110B S01 15840 M 5:45-8:15PM "To Be Arranged"
Fall LITR0110B S02 15841 T 6:40-9:10PM "To Be Arranged"
Fall LITR0110B S03 15842 Th 6:40-9:10PM "To Be Arranged"
Fall LITR0110B S04 16995 Th 6:40-9:10PM "To Be Arranged"
Spring LITR0110B S01 24579 M 5:45-8:15PM "To Be Arranged"
Spring LITR0110B S02 24580 T 6:40-9:10PM "To Be Arranged"
Spring LITR0110B S03 24581 W 5:45-8:15PM "To Be Arranged"
Spring LITR0110B S04 25501 Th 6:40-9:10PM "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/NC.

Fall LITR0210A S01 15843 T 4:00-6:30(09) (A. Colarusso)
Fall LITR0210A S02 15844 T 6:40-9:10PM "To Be Arranged"
Spring LITR0210A S01 24582 T 4:00-6:30(16) (A. Colarusso)
Spring LITR0210A S02 24583 M 5:45-8:15PM "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/NC.

Fall LITR0210B S01 15845 W 3:00-5:30(17) (S. Nakayasu)
Spring LITR0210B S01 24584 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 15846 Th 4:00-6:30(04) (C. Swensen)
Spring LITR0710 S01 24585 Th 4:00-6:30(17) (C. Channer)

LITR 0999. Graphic Novels and Comic Masterworks.
Focused on the influence of graphic novels and comic art, this course examines graphic novels and comic art from seminal texts like Art Spiegelman’s Maus through a range of mainstream and independent comics from Marjane Satrapi, Grant Morrison, Alan Moore, David B., Lynda Barry, Daniel Clowes, Frank Miller, and many others, including graphic memoir, reportage, and Indie and DIY zines. The course explores image and language in collaboration, seeking a better understanding of this influential genre. Assignments are critical and creative, both individual and collaborative, and will involve daily reading and writing assignments. Enrollment limited to 20.

Spr LITR0999 S01 25474 Th 12:00-2:30 (H. Moody)
LITR 1010A. Advanced Fiction.
The writing of short stories or longer works in progress in regular installments, along with appropriate exercises and reading assignments. See general course description above for course entry procedures for all advanced workshops. Written permission required. S/NC.
Fall LITR1010A S01 15847 W 3:00-5:30(17) (L. Hunt)
Fall LITR1010A S02 17109 W 3:00-5:30(17) 'To Be Arranged'
Spr LITR1010A S01 24588 W 3:00-5:30(10) (H. Moody)
LITR 1010B. 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/NC.
Spr LITR1010B S01 24587 M 3:00-5:30(13) (P. Nelson)
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-Strip-- 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/NC.
Fall LITR1110N S01 18616 M 3:00-5:30(05) (P. Nelson)
LITR 1150B. The Foreign Home: Interdisciplinary Arts.
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. See general course description above for entry procedures for all special topics workshops/seminars. Written permission required. S/NC.
Spr LITR1150B S01 25083 T 9:20-11:50 (T. Field)
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 violates 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.
Fall LITR1151Y S01 16976 W 3:00-5:30(17) (H. Moody)
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 15849 Th 4:00-6:30(04) (H. Moody)
Spr LITR1200 S01 24588 Th 4:00-6:30(17) 'To Be Arranged'
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.
Spr LITR1230E S01 25028 W 3:00-5:30(10) (L. Hunt)
LITR 1230Y. Structuring (and De-Structuring) Novels: Special Topics Literature Seminar.
How to structure a novel? This is a question most novelists approach with dread, because, a) all the good plots and structures have been used up; b) plots can feel annoying anyway, like a capitulation to cinema or theater; and c) nevertheless, it is impossible to write in total darkness. We’ll dispel this darkness by reading works by a range of novelists. How do these authors strike a balance between complex thought and elegant/unusual structure? And how can we, as writers, maintain narrative coherence over the course of hundreds of pages?
Spr LITR1230Y S01 25543 W 3:00-5:30(10) (K. Mahajan)
LITR 1231E. Rereading Writing.
We will study writing and, more generally, language art in terms of reading, reexaming theories and practices of writing— in linguistics, the philosophy of language, and in the actual making of literature— and also by proposing that reading is constitutive of language regardless of its medium. What is reading, historically, theoretically, and in the digitally mediated future of culture? If reading brings language into being, then how should we read and what should we compose to be read? Readings from Saussure and On to Hayles, Derrida, and beyond. Optional critical-creative project.
Fall LITR1231E S01 17026 Th 12:00-2:30 (J. Cayley)
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 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 15850 M 12:00-2:30 (C. Chanmer)
Spr LITR2010A S01 24589 F 11:00-1:30 (C. Maso)
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 15851 W 12:00-2:30 (E. Sikellanos)
Spr LITR2010B S01 24590 M 12:00-2:30 (S. Nakayasu)
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.

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. May not be taken for credit in addition to MATH 0070 or MATH 0090. S/NC only.
Fall MATH0050 S01 16360 TTh 10:30-11:50(13) 'To Be Arranged'

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
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 25658 TTh 10:30-11:50(09) 'To Be Arranged'

MATH 0070. Calculus with Applications to Social Science. A survey of calculus for students who wish to learn the basics of calculus for application to social sciences or for cultural appreciation as part of a broader education. Topics include functions, equations, graphs, exponentials and logarithms, and differentiation and integration; applications such as marginal analysis, growth and decay, optimization, and elementary differential equations. May not be taken for credit in addition to MATH 0050 or MATH 0060 or MATH 0090. S/NC only.

Fall MATH0070 S01 16362 TTh 9:00-10:20(02) (A. Landman)

MATH 0090. Introductory 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 0050 or MATH 0060 or MATH 0070. S/NC only.

Fall MATH0090 S01 16363 MWF 9:00-9:50(01) 'To Be Arranged'
Fall MATH0090 S02 16364 MWF 11:00-11:50(16) (D. Katz)
Fall MATH0090 S03 16365 MWF 12:00-12:50(15) 'To Be Arranged'
Fall MATH0090 S04 16366 MWF 1:00-1:50(06) 'To Be Arranged'
Fall MATH0090 S05 16367 TTh 2:30-3:50(12) 'To Be Arranged'
Spr MATH0090 S01 25659 MWF 11:00-11:50(04) (Y. Hsu)
Spr MATH0090 S02 25660 MWF 12:00-12:50(05) 'To Be Arranged'

MATH 0100. Introductory Calculus, Part II. A continuation of the material of MATH 0090 including further development of integration, techniques of integration, and applications. Other topics include infinite series, power series, Taylor's formula, polar and parametric equations, and an introduction to differential equations. MATH 0090 or the equivalent are recommended for all students intending to concentrate in the sciences or mathematics.

Fall MATH0100 S01 16379 MWF 9:00-9:50(01) 'To Be Arranged'
Fall MATH0100 S02 16380 MWF 11:00-11:50(16) (Y. Hsu)
Fall MATH0100 S03 16381 MWF 12:00-12:50(15) 'To Be Arranged'
Fall MATH0100 S04 16382 MWF 1:00-1:50(06) 'To Be Arranged'
Fall MATH0100 S05 16383 TTh 1:00-2:20(08) 'To Be Arranged'
Spr MATH0100 S01 25666 MWF 9:00-9:50(02) 'To Be Arranged'
Spr MATH0100 S02 25667 MWF 11:00-11:50(04) 'To Be Arranged'
Spr MATH0100 S03 25668 MWF 12:00-12:50(05) 'To Be Arranged'
Spr MATH0100 S04 25669 MWF 2:00-2:50(07) 'To Be Arranged'

MATH 0180. Intermediate Calculus. Three-dimensional analytic geometry. Differential and integral calculus for functions of two or three variables: partial derivatives, multiple integrals, line integrals, Green's Theorem, Stokes' Theorem. Prerequisite: MATH 0100, 0170, or 0190.

Fall MATH0180 S01 16394 MWF 9:00-9:50(01) 'To Be Arranged'
Fall MATH0180 S02 16397 MWF 10:00-10:50(14) (D. Katz)
Fall MATH0180 S03 16398 MWF 2:00-2:50(07) (H. Nguyen)
Spr MATH0180 S01 25678 MWF 10:00-10:50(03) (D. Katz)
Spr MATH0180 S02 25679 MWF 12:00-12:50(05) 'To Be Arranged'
Spr MATH0180 S03 25680 MWF 2:00-2:50(07) 'To Be Arranged'

MATH 0190. Advanced Placement Calculus (Physics/Engineering). Covers roughly the same material and has the same prerequisites as MATH 0170, but 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. The extra hour is a weekly problem session. Recommended prerequisite: MATH 0100, 0170, or 0190.

Fall MATH0190 S01 16404 MWF 9:00-9:50(01) 'To Be Arranged'
Fall MATH0190 S02 16405 MWF 11:00-11:50(16) (J. Kostuk)

MATH 0200. Intermediate Calculus (Physics/Engineering). Covers roughly the same material as MATH 0180, but 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. The extra hour is a weekly problem session. Recommended prerequisite: MATH 0100, 0170, or 0190.

Fall MATH0200 S01 16409 MWF 10:00-10:50(14) (H. Nguyen)
Fall MATH0200 S02 16412 MWF 2:00-2:50(07) (Y. Hsu)
Fall MATH0200 S03 16413 MWF 12:00-12:50(15) 'To Be Arranged'
Spr MATH0200 S01 25686 MWF 1:00-1:50(06) (Y. Hsu)
Spr MATH0200 S02 25687 MWF 9:00-9:50(02) 'To Be Arranged'
Spr MATH0200 S03 25688 MWF 12:00-12:50(05) 'To Be Arranged'

MATH 0350. Honors Calculus. A three-semester calculus course for students of greater aptitude and motivation. Topics include vector analysis, multiple integration, partial differentiation, line integrals, Green's theorem, Stokes' theorem, the divergence theorem, and additional material selected by the instructor. Prerequisite: Advanced placement or written permission.

Fall MATH0350 S01 16419 TTh 10:30-11:50(13) 'To Be Arranged'
Fall MATH0350 S02 16420 MWF 2:00-2:50(07) 'To Be Arranged'

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 MATH0420 S01 25693 MWF 10:00-10:50(03) (Y. Sulyma)

MATH 0520. Linear Algebra. Vector spaces, linear transformations, matrices, systems of linear equations, bases, projections, rotations, determinants, and inner products. 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 1000-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 MATH0520 S01 16422 TTh 1:00-2:20(08) (J. Li)
Fall MATH0520 S02 16423 MWF 2:00-2:50(07) 'To Be Arranged'
Fall MATH0520 S03 16424 TTh 10:30-11:50(13) (J. Usatine)
Fall MATH0520 S04 16456 MWF 12:00-12:50(15) 'To Be Arranged'
Spr MATH0520 S01 25694 MWF 9:00-9:50(02) 'To Be Arranged'
Spr MATH0520 S02 25695 MWF 2:00-2:50(07) 'To Be Arranged'
Spr MATH0520 S03 25696 TTh 9:00-10:20(01) (A. Landman)
Spr MATH0520 S04 25697 TTh 10:30-11:50(09) (J. Li)
Spr MATH0520 S05 25698 TTh 1:00-2:20(08) 'To Be Arranged'

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
MATH 0540. Honors Linear Algebra.
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 forms.
MATH 0540 provides a more theoretical treatment of the topics in MATH 0520, and students will have opportunities during the course to develop proof-writing skills. [Recommended prerequisites: MATH 0100 or equivalent.]
Fall MATH0540 S01 16425 MWF 11:00-11:50(16) (M. Chan)
Fall MATH0540 S02 16426 MWF 1:00-1:50(06) (S. Treil)
Spr MATH0540 S01 25699 TTh 10:30-11:50(09) "To Be Arranged"
Spr MATH0540 S02 25701 TTh 2:30-3:50(11) "To Be Arranged"

MATH 0750. Introduction to Higher Mathematics.
This year-long class will expose students to six fundamental areas of mathematics. It will be 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 16432 TTh 1:00-2:20(08) (J. Pipher)

MATH 0760. Introduction to Higher Mathematics.
This year-long class will expose students to six fundamental areas of mathematics. It will be 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.
Spr MATH0760 S01 25702 TTh 2:30-3:50(11) "To Be Arranged"

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 25704 MWF 10:00-10:50(03) (J. Kostuk)

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.
Spr MATH1040 S01 25705 TTh 1:00-2:20(08) (J. Kahn)

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 curvature 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.
Fall MATH1060 S01 16433 TTh 9:00-10:20(02) (G. Daskalopoulos)

MATH 1100. 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.
Fall MATH1100 S01 16434 MWF 10:00-10:50(14) (B. Pausader)

MATH 1120. Partial Differential Equations.
The wave equation, the heat equation, Laplace's equation, and other classical equations of mathematical physics and their generalizations. Solutions in series of eigenfunctions, maximum principles, the method of characteristics, Green's functions, and discussion of well-posedness. Prerequisites: MATH 0520 or MATH 0540, or instructor permission.
Spr MATH1120 S01 25706 TTh 2:30-3:50(11) (J. Li)

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.
Fall MATH1130 S01 16436 TTh 1:00-2:20(08) (N. Kapouleas)

MATH 1140. Functions of Several Variables.
See Functions Of Several Variables (MATH 1130) for course description. Prerequisite: MATH 1130 or instructor permission.
Spr MATH1140 S01 25707 MWF 1:00-1:50(06) (S. Treil)

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. Enrollment limited to 15.
Spr MATH1230 S01 25708 TTh 9:00-10:20(01) (B. Tshishiku)

MATH 1260. Complex Analysis.
Examines one of the cornerstones 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.
Fall MATH1260 S01 16437 TTh 2:30-3:50(12) (T. Goodwillie)

MATH 1270. Topics in Functional Analysis.
Infinite-dimensional vector spaces with applications to some or all of the following topics: Fourier series and integrals, distributions, differential equations, integral equations, calculus of variations. Prerequisite: At least one 1000-level course in Mathematics or Applied Mathematics, or permission of the instructor.
Fall MATH1270 S01 16438 TTh 2:30-3:50(12) (A. Landman)

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.
Fall MATH1410 S01 16439 TTh 9:00-10:20(02) (B. Tshishiku)

MATH 1530. Abstract Algebra.
An introduction to the principles and concepts of modern abstract algebra. Topics include groups, rings, and fields; applications to number theory, the theory of equations, and geometry. MATH 1530 is required of all students concentrating in mathematics.
Fall MATH1530 S01 16440 MWF 10:00-10:50(14) (J. Silverman)
Spr MATH1530 S01 25709 MWF 1:00-1:50(06) (N. Looper)
Spr MATH1530 S02 25710 MWF 11:00-11:50(04) (B. Cole)

MATH 1540. Topics in Abstract Algebra.
Galois theory together with selected topics in algebra. Examples of subjects which have been presented in the past include algebraic curves, group representations, and the advanced theory of equations. Prerequisite: MATH 1530.
Spr MATH1540 S01 25711 MWF 11:00-11:50(04) (J. Silverman)

MATH 1560. Number Theory.
A basic introduction to the theory of numbers. Unique factorization, prime numbers, modular arithmetic, quadratic reciprocity, quadratic number fields, finite fields, Diophantine equations, and additional topics. Prerequisite: MATH 1530 or written permission.
Spr MATH1560 S01 25712 MWF 10:00-10:50(03) (N. Looper)
MATH 1580. Cryptography.
The main focus is on public key cryptography. Topics include symmetric ciphers, public key ciphers, complexity, digital signatures, applications and protocols. MATH 1530 is not required for this course. What is needed from abstract algebra and elementary number theory will be covered. Prerequisite: MATH 0520 or MATH 0540.
Spr MATH1580 S01 25715 MWF 2:00-2:50(07) (J. Kostuk)

MATH 1610. Probability.
Basic probability theory. Sample spaces; random variables; normal, Poisson, and related distributions; expectation; correlation; and limit theorems. Applications in various fields (biology, physics, gambling, etc.). Prerequisites: MATH 0180, 0200 or 0350.
Fall MATH1610 S01 16441 MWF 1:00-1:50(06) (J. Holmer)

MATH 1620. Mathematical Statistics.
This course covers the basics of mathematical statistics and applications to data analysis, pattern recognition and machine learning. Estimation, hypothesis testing, classification and regression using linear models, tree-based methods, support vector machines, and neural networks, with other subjects as time permits.
Spr MATH1620 S01 25716 TTh 10:30-11:50(09) (J. Holmer)

MATH 1970. Honors Conference.
Collateral reading, individual conferences. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

Introduction to differential geometry (differentiable manifolds, differential forms, tensor fields, homogeneous spaces, fiber bundles, connections, and Riemannian geometry), followed by selected topics in the field.
Spr MATH2010 S01 25717 TTh 1:00-2:20(08) (N. Kapouleas)

MATH 2050. Algebraic Geometry.
Complex manifolds and algebraic varieties, sheaves and cohomology, vector bundles, Hodge theory, Kähler manifolds, vanishing theorems, the Kodaira embedding theorem, the Riemann-Roch theorem, and introduction to deformation theory.
Fall MATH2050 S01 16443 TTh 2:30-3:50(12) (J. Usatine)

MATH 2060. Algebraic Geometry.
See Algebra (MATH 2250) for course description.
Spr MATH2060 S01 25718 TTh 2:30-3:50(11) (J. Usatine)

MATH 2110. Introduction to Manifolds.
Inverse Function Theorem, manifolds and submanifolds, tangent and cotangent bundles, transversality, flows and vector fields, Frobenius Theorem, vector bundles, tensors and differential forms, Sard's Theorem, introduction to Lie groups.
Fall MATH2110 S01 16444 MWF 1:00-1:50(06) 'To Be Arranged'

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 16445 TTh 1:00-2:20(08) (J. Kahn)

MATH 2260. Complex Function Theory.
See Complex Function Theory (MATH 2250) for course description.
Spr MATH2260 S01 25719 TTh 9:00-10:20(01) (G. Daskalopoulos)

MATH 2370. Partial Differential Equations.
The theory of the classical partial differential equations; the method of characteristics and general first order theory. 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.
Semester II concentrates on special topics chosen by the instructor.
Fall MATH2370 S01 16446 MWF 2:00-2:50(07) 'To Be Arranged'

MATH 2380. Partial Differential Equations.
The theory of the classical partial differential equations; the method of characteristics and general first order theory. 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.
Semester II of this course concentrates on special topics chosen by the instructor.
Spr MATH2380 S01 25720 TTh 1:00-2:20(08) (H. Nguyen)

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.
Fall MATH2410 S01 16447 TTh 10:30-11:50(13) (Y. Sulyma)

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 25721 MWF 1:00-1:50(06) (Y. Sulyma)

MATH 2450. Exchange Scholar Program.
See Algebra (MATH 2510) for course description.
Spr MATH2450 S01 25722 Arranged 'To Be Arranged'

MATH 2500. Complex Function Theory.
See Complex Function Theory (MATH 2250) for course description.

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.
Fall MATH2510 S01 16449 MWF 11:00-11:50(16) (D. Abramovich)

MATH 2520. Algebra.
See Algebra (MATH 2510) for course description.
Spr MATH2520 S01 25722 Arranged 'To Be Arranged'

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. Prerequisite: MATH 2510.
Fall MATH2530 S01 16450 TTh 9:00-10:20(02) 'To Be Arranged'

MATH 2540. Number Theory.
See Number Theory (MATH 2530) for course description.
Spr MATH2540 S01 25723 Arranged 'To Be Arranged'

MATH 2970. Preliminary Exam Preparation.
No description available.
Spr MATH2970 S01 15503 Arranged 'To Be Arranged'

MATH 2970. Preliminary Exam Preparation.

MATH 2980. 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.

MATH 2990. Thesis Preparation.
For graduate students who have met the residency requirement and are continuing research on a full time basis.
Fall MATH2990 S01 15504 Arranged 'To Be Arranged'
Spr MATH2990 S01 24301 Arranged 'To Be Arranged'

MATH XLIST. Courses of Interest to Students Majoring in Mathematics.

Medieval Studies
Tutorial instruction on an approved topic in Late Antique and/or Medieval culture, 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.

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

MES 0100. The Middle East: Cultures & Societies.
This course highlights major cultural, social, and political developments in the amorphous region known, since the 20th century, as the Middle East. Covering expanses of space and time, this course attends to a diversity of peoples and polities, and considers different regional concepts that include some or all of the territories normally included in the Middle East (including the Fertile Crescent, the Mediterranean world, the Indian Ocean world, the Arab world, and the Muslim world) and addresses the region's coherence in terms of shared historical and political experiences, religious and cultural references or practices, and/or socialities and ways of being.
Spr MES0100 S01 25281 MWF 1:00-2:20(08) (S. Tabatabaei)

This course explores the city as physical and metaphorical space and aggregator of possibilities. It focuses on Tehran, in its historical, geographical, artistic and virtual specificity, and artists who have lived there, including: Kamal-al-molk (and his followers in the early twentieth century; artists associated with Saqqakhaneh (modern school of art) at mid-twentieth-century, artists of the Revolution and the Iran-Iraq war in the 1980s and 1990s, and contemporary urban and transnational artists. By examining urban participation, aesthetics, and politics in Tehran across more than a century, the course provokes critical reflection on experience and representations of urban space, citizenry and creativity.
Fall MES1120 S01 17013 TTh 1:00-2:20(08) (S. Tabatabaei)

MES 1170. Iranian Art: Sites and Sights.
This course introduces students to the modern and contemporary history of art in Iran, including architecture, visual art, cinema, theatre, and politics. It starts with the transition from the Qajar period (1781-1925) and its visual culture to the modern 20th-century national-state, addressing: processes of urbanization; spread of modern technologies; revolutionary sentiment of 1979; displacement and formation of diasporic communities after the Islamic revolution; and the emergence of Internet technology in the 21st century. This historical backdrop informs investigation into artistic milieus, platforms, and the ever-changing notion of creativity. Course readings consist of excerpts from primary sources in addition to textbook assignments.
Spr MES1170 S01 25532 F 3:00-5:30(15) (S. Tabatabaei)

MES 1270. Histories of Watching and Surveying.
How are surveillance practices historically embedded in social fabric? How have surveillance technologies altered social life throughout history? This course explores these questions by mapping the complex ways that technologies and societies interact to produce security, fear, control, and vulnerability. Some of the areas covered include close-circuit television (CCTV) in public and quasi-public spaces, biometric technologies on the border, and a host of monitoring technologies in cyberspaces, workplaces, and the home. Readings are drawn from the critical theories in visual culture, science-fiction, and popular media.
Spr MES1270 S01 25533 M 3:00-5:30(13) (S. Tabatabaei)

MES 1300. Intellectual Change: From Ottoman Modernization to the Turkish Republic.
A critical survey of Ottoman intellectual history in the 19th and early 20th centuries. Modernization, formation of the modern state and issues of nationalism and other ideologies of the time form the main framework, analyzing their political, social and cultural impact on intellectual production in the Ottoman Empire and through the making of Republican Turkey. It is a history of mentalities organized around thematic/chronological modules, each representing a set of concepts, ideas, movements as well as facts and problems, which will be compared to the larger world of modern state formation both in thought and practice.
Fall MES1300 S01 17012 T 4:00-6:30(09) (M. Toksoz)

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.

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 is prefaced on construction of an “other.” Aime Cesaire refers to this as “thingification,” whereby colonial subjects are dehumanized and the colonizer “dechristialized.” 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.

MES XLIST. Courses of Interest to Students Concentrating in Middle East Studies.
For information on courses which may be of interest to students concentrating in Middle East Studies, please refer to the MES XLIST in the Class Schedule menu.

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—including 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 15910 MW 12:00-12:50 (A. Azoulay)

Print media are ubiquitous, appearing in myriad forms, material configurations, and genres. This course investigates the concept of print as a mass medium, the first produced by means of mechanical reproduction. We will give particular attention to the theoretical problems that govern its analysis and to compelling concepts of print as a form. The course will trace the emergence of mass literacy and reading habits, print culture and the public sphere, the rise of the novel and history of the book, as well as concepts of literariness and representation, mediation and signification, narrativity and virtuality, the work and the text.
Spr MCM0220 S01 24633 MW 1:00-1:50 (E. Rooney)
MCN 0260. Cinematic Coding and Narrativity.
Introduces students to rigorous study of the structural and ideological attributes of cinema, concentrating on the dominant narrative model developed in the American studio system and alternatives to that model. Attention to film theory in relation to questions of representation, culture, and society. Students become conversant with specific elements and operations of the cinematic apparatus (e.g. camerawork, editing, sound-image relations) and how they produce discursive meanings. Students MUST register for the lecture, section and one screening. A sign-up sheet will be available for conferences after the first class meeting. Open to undergraduates only.
Spr MCN0260 S01 25264 MW 2:00-2:50 (J. Copjec)

MCN 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.
Spr MCN0700A S01 24649 W 10:00-12:50 (D. Udris)

MCN 1204J. A New Black Gaze.
What is a ‘black gaze’? The title of this course is a provocation that poses the question of whether we can identify the existence of a black gaze, while asserting the transformative potential such a gaze both promises and portends. Starting from a close examination of theories of the gaze, we will engage the relationship between contemporary black visuality and what constitutes a black gaze in the twenty-first century. Focusing on a select group of black contemporary artists, we will explore how their work challenges traditional notions of what constitutes the power/politics of the gaze.
Fall MCN1204J S01 15925 W 3:00-5:30(17) (T. Campt)

MCN 1204Q. Anime Culture: Theory and Media Ecology of Animation.
This course introduces students to the critical study of Japanese animation (anime) in a global context of media environment. We will study the history, aesthetics, politics, and theory of anime and its socio-cultural formations. The focus is to analyze the forms and idioms of anime in relation to changing media technologies and their impacts. Students are expected to explore the technological and cultural characteristics of anime in tandem with the studies of media theory and history, and to expand their interest in anime to wider questions such as posthumanism, techno-orientalism, cyborg feminism, media convergence, and participatory cultures.
Fall MCN1204Q S01 17110 TTh 2:30-3:50(12) (J. Li)

MCN 1501O. Television, Gender, and Sexuality.
This course investigates how television produces and reproduces constructions of gender and sexuality through its institutional form (as it maps relations between the public and the private, the domestic and the social, the inside and the outside), narrative patterns (as it circulates family romances, links gender and genre, and mediates sexual and social tensions), and spectatorial relations (as it variously addresses viewers as sexual and gendered subjects, consumers and commodities, familial and defamiliarized viewers).
Spr MCN1501O S01 24651 Th 4:00-6:30(17) (L. Joyrich)

MCN 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 Islamization of the culture, the institutionalization of the “modesty system,” and the alteration of divorce laws.
Fall MCN1504R S01 16817 T 1:20-3:50 (J. Copjec)

MCN 1700. 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. Application required. Application is available in the MCN office. Students must bring a completed application to the first class to be considered for admission.
Fall MCN1700D S01 15927 Th 11:00-1:50 (D. Udris)

MCN 1990. Honors Thesis/Project in Modern Culture and Media.
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 (10-20 hours per week).

MCN 2100O. Queer Theories.
This course will engage with possibilities and problems of queer theorizing, from the emergence of queer theory, through its (precarious) institutionalization, to its multiplied interventions. Rather than understanding queer theory as a unified approach, we will consider a range of queer theoretical work as well as challenges within queer analysis itself. Issues to be explored include formations of gender and sexuality, race and nation, epistemology and ethics, politics and communities, subjectivities and socialities, identifications and disidentifications, bodies and pleasures, publics and privates, and the temporalities and locations of our world. Preference given to graduate students; all others seek instructor permission.
Fall MCN2100O S01 16288 W 3:00-5:30(17) (L. Joyrich)

MCN 2110V. The Ethics of Psychoanalysis.
Jacques Lacan’s seminar VII: The Ethics of Psychoanalysis examines theories of ethics, from Aristotle through Bentham and Kant, before proposing an ethics proper to psychoanalysis. The seminar concludes with a fascinating analysis of Sophocles’ Antigone. We will read the seminar closely alongside texts by Freud, Lacan, Badiou, and other contemporary thinkers. Why does psychoanalysis bother to enter ethical debates rather than reject the category altogether?
Spr MCN2110V S01 24817 T 1:20-3:50 (J. Copjec)

MCN 2450. Exchange Scholar Program.
Fall MCN2450 S01 15505 Arranged "To Be Arranged"

MCN 2510K. Media Regionalism: Between Empires and Territories.
This graduate seminar sets out to rethink media theory and history from the perspective of regionalism, and to confront the dominant model of a distributive, determinatorial media unfolding with a regional approach that is tethered to particular territories, milieus, geo-environments, and ecological surroundings. What happens when the presumed geography and topology of media formation, as a distributed global network, is called into question? What might the regional models developed within area studies and postcolonial theories have to contribute to media studies? The purpose is to explore multitudes of theories and methods that help us reconsider “where” and “what” media is.
Fall MCN2510K S01 17112 M 3:00-5:30(05) (J. Li)

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
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 15506 Arranged 'To Be Arranged' 
Spr MCM2990 S01 24302 Arranged 'To Be Arranged' 

Music 

MUSC 0021F. Popular Music and Society in Latin America. 
This course examines how Latin American musics shape, and are shaped by, their social environment and the political histories of their homelands. Focusing especially on Cuban and Andean styles, it explores the way that sounds connect with the lived experiences of local audiences, the artistic and political goals that have motivated key performers, and the effect of their actions on broader social debates. Issues covered include the relationship between music, race, and national identity; sound as a medium for social politics; the roles of industrialization, migration, urbanization, and media dissemination in driving musical change. Enrollment limited to 19 first year students. 

Fall MUSC0021FS01 16835 TTh 1:00-2:20(08) (J. Tucker) 

Examine the history, literature, production and theory of music technology. Track development of musical inventions and their impact on musical thought, production and culture. Develop theoretical and practical knowledge of computer music based on first-hand experience in the Multimedia Lab, using computer music software and hardware to complete creative assignments. Gain an appreciation for the pioneering work done in previous decades, both in research and composition. Become familiar with the literature of electronic music and learn about the impact of technology on popular and experimental genres. Permission granted based on questionnaire given in first class. Preference given to lower-level students. 

Fall MUSC0200 S01 16839 TTh 10:30-11:50(13) (T. Winkler) 

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 MUSC0400/S01 16924 MWF 11:00-11:50(16) 'To Be Arranged' 
Spr MUSC0400AS01 25568 TTh 2:30-3:50(11) (M. Seto) 

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 40. Permission granted based on questionnaire given in first class. Preference given to lower-level students. 

Fall MUSC0400BS01 16928 MWF 10:00-10:50(14) 'To Be Arranged' 
Spr MUSC0400BS01 25415 MWF 10:00-10:50(03) 'To Be Arranged' 

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 16840 TTh 1:00-2:20(08) (M. Steinbach) 
Fall MUSC0550 S02 16933 TTh 2:30-3:50(12) (L. Wang) 

See Theory Of Tonal Music (MUSC 0550) for course description. Prerequisite: MUSC 0550 or permission of the instructor. 

Spr MUSC0560 S01 25548 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 25563 TTh 10:30-11:50(09) 'To Be Arranged' 
Spr MUSC0570 S01 25563 MW 11:00-11:50(09) 'To Be Arranged' 

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 performance. Enrollment is by audition, based on voice quality, experience, and music-reading ability. Instructor permission required. 

Fall MUSC0600 S01 16907 MW 6:30-8:20PM (L. Jodry) 

MUSC 0601. Chorus. 
See Chorus (MUSC 0600) for course description. 

Spr MUSC0601 S01 25400 MW 6:30-8:20PM (L. Jodry) 

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 16908 TTh 7:15-9:45PM (M. Seto) 

MUSC 0611. Orchestra. 
See Orchestra (MUSC 0610) for course description. 

Spr MUSC0611 S01 25401 TTh 7:15-9:45PM (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 16939 W 6:00-8:20PM 'To Be Arranged' 
Fall MUSC0620 S01 16939 M 6:00-7:20 'To Be Arranged' 

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
MUSC 0621. Wind Symphony.
See Wind Symphony (MUSC 0620) for course description.
Spr MUSC0621 S01 25440 W 6:00-8:20PM 'To Be Arranged'
Spr MUSC0621 S01 25440 M 6:00-7:20 'To Be Arranged'

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 16940 Th 6:10-7:20 'To Be Arranged'
Fall MUSC0630 S01 16940 M 7:30-8:50PM 'To Be Arranged'
Fall MUSC0630 S02 16943 T 8:00PM-9:20PM 'To Be Arranged'
Fall MUSC0630 S03 16944 W 2:00-3:20 'To Be Arranged'
Fall MUSC0630 S04 16945 W 4:00-5:20 'To Be Arranged'
Fall MUSC0630 S05 16946 F 4:00-5:20 'To Be Arranged'
Fall MUSC0630 S06 16947 T 12:00-1:30 'To Be Arranged'

MUSC 0631. Jazz Band.
See Jazz Band (MUSC 0630) for course description.
Spr MUSC0631 S01 25432 Th 6:10-7:20 'To Be Arranged'
Spr MUSC0631 S01 25432 M 7:30-8:50PM 'To Be Arranged'
Spr MUSC0631 S02 25434 T 8:00PM-9:20PM 'To Be Arranged'
Spr MUSC0631 S03 25435 W 2:00-3:20 'To Be Arranged'
Spr MUSC0631 S04 25436 W 4:00-5:20 'To Be Arranged'
Spr MUSC0631 S05 25437 F 4:00-5:20 'To Be Arranged'
Spr MUSC0631 S06 25438 T 12:00-1:30 'To Be Arranged'

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 16912 W 5:00-7:20 (M. Obeng)

MUSC 0641. 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.
Spr MUSC0641 S01 25406 W 5:00-7:20 (M. Obeng)

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, Ghana, and Milton Nascimento.
Fall MUSC0642 S01 16913 M 7:00-9:00PM (M. Obeng)
Spr MUSC0642 S01 25407 M 7:00-9:00PM (M. Obeng)

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.
Fall MUSC0650 S01 16914 T 6:00-8:50PM 'To Be Arranged'

MUSC 0651. Javanese Gamelan.
See Javanese Gamelan, MUSC0650, for course description. Enrollment limited to 18 students.
Spr MUSC0651 S01 25408 T 6:00-8:50PM (M. Perlman)

MUSC 0670. Old-Time String Band.
Half credit each semester. Instruction and ensemble playing. Music taught by ear. American (southern Appalachian Mountain) traditional music on violin (fiddle), 5-string banjo, mandolin, and guitar. Enrollment limited to 20 students.
Fall MUSC0670 S01 16917 T 7:00-8:50PM (S. Astrausky)

MUSC 0671. Old-Time String Band.
See Old-Time String Band (MUSC 0670) for course description. Enrollment limited to 20 students.
Spr MUSC0671 S01 25409 T 7:00-8:50PM (S. Astrausky)

MUSC 0680. Chamber Music Performance.
Half credit each semester. The practical study of the literature of chamber music through participation in a small ensemble. Regular rehearsals, coaching by department staff, and performances are required. Enrollment is by audition. Students will be notified of audition results within the first ten days of the semester. Restricted to skilled instrumentalists. May be repeated for credit.
Fall MUSC0680 S01 16918 Arranged (L. Finkel)

MUSC 0681. Chamber Music Performance.
See Chamber Music Performance (MUSC 0680) for course description.
Spr MUSC0681 S01 25410 Arranged (L. Finkel)

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.

MUSC 1010. Advanced Musicianship I.
Training in advanced musicianship skills relevant to Western art music from the sixteenth Century to the present, including sight singing, ear training, score reading, keyboard harmony, improvisation, and musical transcription. Prerequisite: MUSC 0560 or MUSC 0570, or permission of the instructor.
Fall MUSC1010 S01 16843 W 2:00-2:50(07) (A. Cole)

MUSC 1011. Advanced Musicianship II.
Continuation of MUSC 1010. Prerequisite: MUSC 1010 or permission of the instructor.
Spr MUSC1011 S01 25565 MWF 2:00-2:50(07) (A. Cole)

MUSC 1050. Advanced Music Theory II.
A study of theories of Western art music since Debussy. Exercises in analysis and composition, focusing on works of Debussy, Stravinsky, Schoenberg, Webern, Bartok and Ives. Students give presentations on selected later composers. Prerequisite: MUSC 0560 with grade of B, or the equivalent.
Fall MUSC1050 S01 16847 TTh 10:30-11:50(13) (E. Nathan)

MUSC 1100. Introduction to Composition.
Composition students begin by using technical resources developed in their previous theoretical studies. Analysis and discussion of contemporary music provides examples of alternatives to traditional compositional strategies, which students integrate into later assignments. A study of contemporary notational practices and computer-based manuscripting and sequencing is also included. Prerequisite: MUSC 0560 or MUSC 0570 or permission of the instructor. Enrollment limited to 20 students.
Fall MUSC1100 S01 16844 TTh 2:30-3:50(12) (E. Nathan)

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
MUSC 110. 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 notated 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 120. Seminar in Electronic Music: Recording Studio as Compositional Tool.
A study of advanced studio 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 live sound engineering. Class size is limited. Preference will be given to students who have completed MUSC 0200. Students will be evaluated for potential future work in the MEME program (Multimedia and Electronic Music Experiments) and past participation in MEME. Admission is determined by an entrance questionnaire completed at the first class meeting. Prerequisite: MUSC 0200

Seminar in Electronic Music is a study of music employing electronic media, including real-time digital signal processing, multimedia, and live performance. Technical aspects of the course focus on programming using Max/MSP to create interactive projects and algorithmic compositions. Permission of instructor required. Interested students must come to the first class. Preference will be given to students who have completed MUSC 0200.

MUSC 1240R. Rap as Storytelling.
This is a weekly production seminar in which students will explore various aspects of hip hop songwriting from the perspective that rap verses can constitute compelling stories. Over the course of the semester we will examine several different storytelling approaches, song structures, and techniques through deep listening sessions, class discussions, and lectures from a range of invited guests. Students will be expected to record verses or parts of verses as part of their weekly writing assignments as well as perform prepared material for their classmates at three points during the semester.

MUSC 1500B. Messiaen.
Oliver Messiaen is one of the most influential and eclectic musicians of the 20th century, yet he remains a highly enigmatic figure. This seminar explores Messiaen's life, theoretical writings, and above all his music. Critical listening and analysis will focus on Messiaen's idiosyncratic harmonic and rhythmic language as well as performance practice issues. We will investigate Messiaen's use of color, plainsong, "modes of limited transposition," birdsong, serialism, and rhythm via representative works. We will also examine Messiaen's formation and his legacy as teacher/composer/performer. Prerequisite MUSC 0560.

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.

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 music perception in terms of auditory and cognitive processes such as auditory perception, memory, and learning. Lectures, discussions, and demonstrations review and analyze a body of scientific research on the psychology of music. Problem sets and a collaborative laboratory project. Prerequisites: PY 1 (PSYC0010) and MU 1 (MUSC 0010) or permission of the instructor.

MUSC 1970. Individual Independent Study
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.

This seminar investigates digital media practices at the intersection of virtual and embodied experience, exploring overlapping genres of play, performance, pedagogy, and participatory culture. Topics include digital games, viral videos, online music and dance lessons, and the performative aspects of virtual communities. Theoretical approaches draw on scholarship in media ethnography, performance studies, human-computer interaction studies, gender studies, and ethnomusicology. We will give equal attention to production, circulation, and reception practices, and consider their contemporary convergence. The course requires critical engagement with a diverse range of media, genres, and cultural contexts, encouraging students to examine their own media practices. Registration permission granted based on questionnaire distributed at first class meeting.

MUSC 1980. Group Independent Study
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.

This core seminar offers a graduate-level survey of the discipline of ethnomusicology and its history, building on previous coursework in ethnographic methods and the history of anthropological theory. Students will complete independent research projects as well as shorter assignments geared to professional development (e.g., exam field proposal, scholarly book review, historical investigation of the Society for Ethnomusicology). Prerequisites: MUSC 1900 and ANTH 2000 or instructor permission.

Ethnomusicology has always been interdisciplinary, and is becoming more so. The student today may encounter concepts from semiotics, linguistics, cultural studies, literary theory, political economy, sociology, cognitive psychology, media studies, sound studies, science and technology studies, organizational studies, and material culture studies, and other disciplines as well. We will examine some of the key concepts of these fields and consider their possible uses in the study of the performing arts. From 'affordances' to the 'type/token distinction,' from 'actor-network theory' to the 'third-person effect,' we will learn to apply (and criticize) concepts presupposed by much current socio-cultural theorizing.

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

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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 16848 W 3:00-5:30(17) (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 25772 W 3:00-5:30(10) (T. Winkler)

MUSC 2300A. Critical Improvisation Studies.
Advanced seminar exploring improvisation from various perspectives: historical, anthropological, philosophical, ethical, and creative. We study improvisation in diverse musical traditions, in other arts, and in problem-solving contexts such as business, technology, and games. Discussion topics include individual vs. group improvisation, the status of "freedom" in creative processes, and the social and artistic functions of improvisation. Instructor permission required. Fall MUSC2300/S01 16935 MWF 9:00-10:20(02) (D. Gooley)

MUSC 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 MUSC2450 S01 15507 Arranged 'To Be Arranged' Fall MUSC2450 S02 15508 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 15509 Arranged 'To Be Arranged' Spr MUSC2970 S01 24303 Arranged 'To Be Arranged'

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. Fall MUSC2980 S01 15510 Arranged 'To Be Arranged'

MUSC 2990. Thesis Preparation.
For graduate students who have met the residency requirement and are continuing research on a full time basis. Fall MUSC2990 S01 15510 Arranged 'To Be Arranged' Spr MUSC2990 S01 24304 Arranged 'To Be Arranged'

Philosophy

PHIL 0060. Modern Science and Human Values.
Devoted to the critical study of moral problems that have been raised or affected by modern science and technology, with a particular emphasis on problems in bioethics and environmental ethics. Possible topics include abortion, euthanasia, organ transplantation, pharmaceutical enhancement, animal rights, population control, and climate change. Throughout the course we will keep track of recurring questions about obligations, rights, harm, and justice, as well as the various ways in which philosophers have attempted to answer these questions. Fall PHIL0060 S01 16898 MWF 12:00-12:50(15) (E. Miller)

PHIL 0207. Food and Philosophy.
This course will deal with questions about the epistemology, metaphysics, aesthetics, ethics and politics of food: how we should reason about the things we eat, what makes them tasty or artistic, and what we ought and ought not to eat and how we ought to structure the environment in which food is produced and distributed. This seminar is meant as a general introduction to philosophy, in which you will familiarize yourself with long-standing kinds of philosophical questions and modes of reasoning. Food will be our anchor topic, the subject matter that gives us the occasion for such philosophical reflection. Fall PHIL0207 S01 16895 MWF 2:00-2:50(07) (E. Guindon)

PHIL 0350. Ancient 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. Fall PHIL0350 S01 16897 MWF 10:00-10:50(14) (E. Kress)

PHIL 0540. 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. Fall PHIL0540 S01 16892 MWF 10:00-10:50(14) (R. Heck)

PHIL 0560. Political Philosophy.
An analytic investigation of some central problems and topics in political philosophy, including political obligation and civil disobedience, liberty, rights, equality, and democracy. Readings are drawn from recent work in the field, along with a few classics. Fall PHIL0560 S01 16894 MWF 11:00-11:50(16) (D. Estlund)

PHIL 0990F. Perception.
 Begins with a reading of some classic works, and then moves on to contemporary work. Topics include: naive realist versus representational theories of sensory experience, the possibility that sensory experience is massively illusory (so that we already occupy a kind of "virtual reality"), the role of the brain in shaping sensory experience, and the alleged foundational role of sensory experience in knowledge. The focus will be on vision but we will also discuss other sense-modalities. Suggested prerequisite: at least one course in philosophy (2 or more preferred). Fall PHIL0990F S01 16899 MWF 1:00-1:50(06) (A. Pautz)

PHIL 0991P. Aesthetics: What is a Picture?.
This course will consider various issues about pictures and their role in art. What is a picture as opposed to other kinds of symbols? What is pictorial meaning? How does our response to pictures differ from other aesthetic responses? How do photographs differ from paintings? Readings will be drawn from historical as well as contemporary sources, such as Plato, Alberti, Harris, Kames, Winckelmann, Lessing, Herder, Kant, as well as Goodman, Gombrich, Wollheim, Robert Hopkins, Dominic Maclver Lopes, and Diarmud Costelloe. Fall PHIL0991P S01 17192 Th 4:00-6:30(04) (P. Guyer)

PHIL 1100D. Conditionals.
In this course, we will look at different theories of what "if" means. Is it a truth-functional connective, like the material conditional used in logic? Do sentences of the form "If P, then Q" even have truth conditions? Some logic will be very helpful; some familiarity with philosophy of language also helpful. Fall PHIL1100D S01 16902 TTh 10:30-11:50(13) (J. Dreier)

PHIL 1282. Hellenistic Ethics.
TO BE DETERMINED
Fall PHIL1282 S01 17019 TTh 9:00-10:20(02) (E. Kress)

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
PHIL 1290. Kant’s Moral Philosophy.
An introduction to the central themes of Kant’s moral philosophy, including autonomy, freedom, happiness, obligation, and virtue. Kant's position in the history of moral philosophy will also be considered. Readings to include all of Kant's major writings in this field, thus Groundwork for the Metaphysics of Morals, Critique of Practical Reason, Religion within the Boundaries of Mere Reason, and Metaphysics of Morals, as well as several essays and lectures. Work will include two short papers and one term paper.
Fall PHIL1290 S01 16903 TTh 1:00-2:20(08) (P. Guyer)

PHIL 1300. Philosophy of Mathematics.
This course provides an introduction to the philosophy of mathematics. We will discuss the nature of mathematical objects: Are they mental constructions, do they inhabit some Platonic realm, or are there no mathematical objects at all? We will also discuss the status of our knowledge of mathematics: How is that we are justified in reasoning as we do in mathematics? The first part of the course will be devoted to discussing the history of the philosophy of mathematics. The second part of the course will focus on contemporary debates in the philosophy of mathematics.
Fall PHIL1300 S01 16896 TTh 1:00-2:20(08) (J. Schechter)

PHIL 1520. Consciousness.
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, inattentive blindness, hemineglect, and related phenomena; (ix) the unconscious; and (x) what it is for a state of consciousness to be unified.
Fall PHIL1520 S01 16904 TTh 2:30-3:50(12) (C. Hill)

PHIL 1630. Mathematical Logic.
This course provides a rigorous introduction to the metatheory of classical first-order predicate logic. Topics covered include the syntax, formal semantics, and proof theory of first-order logic, leading up to the completeness theorem and its consequences (the compactness and Lowenheim-Skolem theorems). There will be some discussion of philosophical issues, but the focus of the course will be on the technical material. This course provides a more rigorous and mathematical treatment of material covered in PHIL 0540. No previous familiarity with logic is required, but it may be taken after 0540.
Fall PHIL1630 S01 16893 MWF 11:00-11:50(16) (E. Guindon)

PHIL 1640. The Nature of Morality.
Investigates major theories and issues concerning the nature of moral value. Readings from 20th-century authors. Issues include naturalism, supervenience, moral motivation, subjectivity/objectivity of value, skepticism, moral relativism, and moral realism.
Fall PHIL1640 S01 16900 TTh 9:00-10:20(02) (J. Dreier)

PHIL 1700. Locke, Berkeley, Hume and Others.
A detailed study, both historical and critical, of central issues in Locke, Berkeley, and Hume. Topics include a selection from: innate ideas; substance; personal identity; abstract ideas; theory of language; perception, materialism, and idealism; induction and causation; and skepticism. Also includes some discussion of later critics of classical empiricism.
Fall PHIL1700 S01 16911 TTh 10:30-11:50(13) (J. Broackes)

PHIL 1760. Philosophy of Language.
How is language used both to express and to communicate our beliefs and other thoughts? What is the relation between the meaning of a sentence and the meanings of the words that comprise it? We will discuss philosophical work on these and related questions including, potentially: the meanings of metaphors; the way meaning depends upon context; the nature of slurs and hate speech.
Fall PHIL1760 S01 17043 MWF 12:00-12:50(15) (R. Heck)

An elective for students with at least six previous courses in philosophy. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

An elective for students writing a thesis. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

PHIL 2020Q. Perception.
A survey of contemporary philosophical views about the nature of perception, with occasional lingering looks at relevant parts of the scientific literature. Topics will include appearance and reality, colors, the nature of perceptual representation, perceptual consciousness, the relationship between perception and cognition, the controversy about whether perceptual content is thick or thin, and the relationship between perceptual experience and epistemic rationality.
Fall PHIL2020Q S01 17018 W 3:00-5:30(17) (A. Pautz)

PHIL 2100P. Political Philosophy.
Graduate seminar on Political Philosophy
Fall PHIL2100P S01 17190 W 3:00-5:30(17) (D. Estlund)

PHIL 2160S. Fiction and Ethical Issues in Education.
This seminar uses novels and short stories as well as conventional philosophical and sociological pieces as vehicles for exploring ethical issues in education. Topics will include admission to selective schools, grading, student discipline, teacher evaluation, student-teacher relationships, curriculum content, and the relation of education to society as a whole. In order to include students with a wide range of interests and backgrounds, this seminar has no prerequisites.
Fall PHIL2160S S01 17191 M 3:00-5:30(05) (F. Ackerman)

PHIL 2170K. The Concept of a Meaningful Life.
The seminar will explore some fairly recent work on attempting to canvas the concept of a meaningful life. Specific topics will include, besides some classic analyses of the concept, the relevance of mortality to meaningfulness, the role of love in a meaningful life, and the relation between meaningfulness and a number of other goods, such as happiness, well-being, and morality. We will read works from philosophers including Thomas Nagel, Robert Nozick, Harry Frankfurt, Susan Wolf, Jay Wallace, and Kieran Setyia, among others.
Fall PHIL2170K S01 17020 Th 4:00-6:30(04) (B. Reginster)

PHIL 2200. Graduate Proseminar.
Will cover classics of philosophy from the end of the 19th century to the end of the 20th; including ethics as well as metaphysics, epistemology and philosophy of language.
Fall PHIL2200 S01 16890 MWF 8:00-8:50(03) (N. Arpaly)

PHIL 2450. Exchange Scholar Program.
Fall PHIL2450 S01 15513 Arranged "To Be Arranged"
Fall PHIL2450 S02 15514 Arranged "To Be Arranged"
Fall PHIL2450 S03 15515 Arranged "To Be Arranged"
Spr PHIL2450 S01 24307 Arranged "To Be Arranged"

PHIL 2800. Dissertation Workshop.
No description available. Course for graduate students during their 4th year or above.
Fall PHIL2800 S01 16891 MWF 9:00-9:50(01) (J. Schechter)

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 PHIL2970 S01 15516 Arranged "To Be Arranged"
Spr PHIL2970 S01 24308 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.

For up-to-date course information please visit Courses@Brown.edu (https://cabs.brown.edu).
PHIL 2990. Thesis Preparation.
For graduate students who have met the residency requirement and are continuing research on a full time basis.
Fall PHIL2990 S01 15517 Arranged "To Be Arranged"
Spr PHIL2990 S01 24309 Arranged "To Be Arranged"

PHIL LIST. Courses of Interest to Philosophy Concentrators.

Physics

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, conferences, and laboratory. Six hours of attendance.
Fall PHYS0030 S01 16618 MWF 11:00-11:50(16) "To Be Arranged"
Fall PHYS0030 S02 16619 MWF 12:00-12:50(15) "To Be Arranged"
Spr PHYS0030 S01 25084 MWF 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 16632 MWF 12:00-12:50(15) "To Be Arranged"
Spr PHYS0040 S02 25092 MWF 11:00-11:50(04) "To Be Arranged"
Spr PHYS0040 S02 25093 MWF 12:00-12:50(05) "To Be Arranged"

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 16639 MW 8:30-9:50(01) "To Be Arranged"

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 25106 MW 8:30-9:50(02) "To Be Arranged"

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 16650 MWF 9:00-9:50(01) "To Be Arranged"

Physics has had a dramatic impact on our conception of the universe, our ideas concerning the nature of knowledge, and our view of ourselves. Philosophy, sometimes inspired by developments in physics, considers the impact of such developments on our lives. In this seminar, students will explore how classical and modern physical theory have affected our view of the cosmos, of ourselves as human beings, as well as our view of the relation of mathematical or physical structures to ‘truth’ or ‘reality.’ Through a study of physics as well as selected philosophical readings, we will consider how we can know anything, from seemingly simple facts to whether a machine is conscious. Enrollment limited to 19 first year students. Instructor permission required.
Fall PHYS0100 S01 16658 TTh 2:30-3:50(12) "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/NC
Spr PHYS0160 S01 25114 MWF 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 25122 TTh 9:00-10:20(01) "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 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 16659 MWF 1:00-2:20(08) "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 16660 MWF 10:00-10:50(14) "To Be Arranged"

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 25123 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 acquaint 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 25124 TTh 1:00-2:20(08) "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 16667 TTh 1:00-2:20(08) "To Be Arranged"

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 16668 TTh 9:00-10:20(02) "To Be Arranged"
PHYS 1100. Introduction to 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 25130 TTh 9:00-10:20(01) "To Be Arranged"

PHYS 1280. Introduction to Cosmology.
The course presents an introduction to the study of the origin, evolution and contents of the Universe. Topics include the expansion of the Universe, relativistic cosmologies, thermal evolution, primordial nucleosynthesis, structure formation and the Cosmic Microwave Background. Prerequisites: PHYS 0160, MATH 0190, MATH 0200, or MATH 0350, or instructor permission.
Fall PHYS1280 S01 16669 MWF 2:00-2:50(07) "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 16670 MWF 9:00-9:50(01) "To Be Arranged"

PHYS 1420. Quantum Mechanics B.
See Quantum Mechanics A, (PHYS 1410) for course description.
Spr PHYS1420 S01 25131 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 16671 TTh 2:30-3:50(12) "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 16672 TTh 10:30-11:50(13) "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 25132 M 3:00-5:30(13) "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 25145 TTh 2:30-3:50(11) "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.
Fall PHYS1610 S01 16676 MWF 1:00-1:50(06) "To Be Arranged"

PHYS 1720. Methods of Mathematical Physics.
Designed primarily for sophomore students in physical sciences. Basic elements of and practical examples in 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 16675 TTh 1:00-2:20(08) "To Be Arranged"

This course will concentrate on String Theory. It will be given at introductory/intermediate level with some review of the background material. Topics covered will include dynamical systems, symmetries and Noether’s Theorem; nonrelativistic strings; relativistic systems (particle and string); quantization, gauge fixing, Feynman’s sum over paths; electrostatic analogy; string in curved space-time; and supersymmetry. Some advanced topics will also be addressed, i.e., D-Branes and M-Theory. Recommended prerequisites: PHYS 0470 and 0500, or 0160.
Spr PHYS1970C S01 25147 MWF 1:00-1:50(06) "To Be Arranged"

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 of guided 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 16674 W 3:00-5:30(17) "To Be Arranged"
Spr PHYS2010 S01 25136 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 16685 T 4:00-6:30(09) "To Be Arranged"

PHYS 2030. Classical Theoretical Physics I.
No description available.
Fall PHYS2030 S01 16678 TTh 9:00-10:20(02) "To Be Arranged"

PHYS 2040. Classical Theoretical Physics II.
No description available.
Spr PHYS2040 S01 25137 TTh 10:30-11:50(09) "To Be Arranged"

PHYS 2050. Quantum Mechanics.
No description available.
Fall PHYS2050 S01 16679 MWF 10:00-10:50(14) "To Be Arranged"

PHYS 2060. Quantum Mechanics.
No description available.
Spr PHYS2060 S01 25138 MWF 10:00-10:50(03) "To Be Arranged"

PHYS 2070. Advanced Quantum Mechanics.
No description available.
Fall PHYS2070 S01 16680 TTh 10:30-11:50(13) "To Be Arranged"

PHYS 2140. Statistical Mechanics.
No description available.
Spr PHYS2140 S01 25139 MWF 11:00-11:50(04) "To Be Arranged"
PHYS 2170. Introduction to Nuclear and High Energy Physics.
No description available.
Spr PHYS2170 S01 25140 MWF 12:00-12:50(05) 'To Be Arranged'

PHYS 2280. Astrophysics and Cosmology.
This course serves as a graduate-level introduction to modern cosmology, including current topics of research on both observational and theoretical fronts. Topics include relativistic cosmology, inflation and the early Universe, observational cosmology, galaxy formation. Prerequisites for undergraduates: PHYS 1280 and PHYS 1530.
Spr PHYS2280 S01 25141 MWF 2:00-2:50(07) 'To Be Arranged'

PHYS 2300. Quantum Theory of Fields I.
No description available.
Spr PHYS2300 S01 25142 TTh 2:30-3:50(11) 'To Be Arranged'

PHYS 2320. Quantum Theory of Fields II.
No description available. Instructor permission required.
Fall PHYS2320 S01 16681 TTh 10:30-11:50(13) 'To Be Arranged'

PHYS 2340. Group Theory.
Offered every other year.
Spr PHYS2340 S01 25143 TTh 1:00-2:20(08) 'To Be Arranged'

PHYS 2410. Solid State Physics I.
No description available.
Fall PHYS2410 S01 16682 MWF 2:00-2:50(07) 'To Be Arranged'

PHYS 2420. Solid State Physics II.
No description available.
Spr PHYS2420 S01 25144 MWF 2:00-2:50(07) 'To Be Arranged'

PHYS 2450. Exchange Scholar Program.
Fall PHYS2450 S01 15520 Arranged 'To Be Arranged'
Fall PHYS2450 S02 15521 Arranged 'To Be Arranged'
Spr PHYS2450 S03 24311 Arranged 'To Be Arranged'

PHYS 2470. Advanced Statistical Mechanics.
No description available.
Spr PHYS2470 S01 25149 TTh 10:30-11:50(09) '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 25146 TTh 2:30-3:50(11) 'To Be Arranged'

PHYS 2630. Biological Physics.
The course is the graduate version of Phys 1610, Biological Physics. The topics to be covered include structure of cells 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.
Fall PHYS2630 S01 16684 MWF 1:00-1:50(06) 'To Be Arranged'

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.

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 15522 Arranged 'To Be Arranged'
Spr PHYS2970 S01 24312 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 2991. 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 15523 Arranged 'To Be Arranged'
Spr PHYS2990 S01 24313 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.
Fall POLS0010 S01 15616 TTh 9:00-10:20(02) (W. Schiller)

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 includes Aristotle, Machiavelli, Hobbes, Locke, Rousseau, Marx, and J.S. Mill.
Spr POLS0110 S01 24412 MW 8:30-9:50(02) (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 24393 TTh 2:30-3:50(11) (R. Blair)

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 15607 TTh 10:30-11:50(13) (R. McDermott)

POLS 0820H. Race and Visions of Justice.
This course is both an introduction to and critical assessment of the tradition of liberalism and its ability or inability to address racial inequality. We will explore the re-emergence of liberalism in the 20th century and move on to critical accounts of the tradition by scholars of race, inequality, and social movements. Given that liberalism remains a fundamental aspect of our political lives in the United States, we want to know whether it is capable in theory and practice to address the on-going question for racial justice.
Fall POLS0820HS01 15613 M 3:00-5:30(05) (M. Rogers)

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
POL 0820I. Crime, Mafias and Prison.
Will develop framework for analysis of criminal behavior in a variety of contemporary and historical settings. Examines the rationality behind criminal choices, how governments seek to control crime, alternatives to state-enforcement of criminal law, origins and operation of organized crime and mafia groups, and how crime affects regions characterized by failed or weak states. Study crime in a variety of contexts, including in the Sicilian Mafia, 18th century piracy, contemporary drug and sex markets, and prison gangs. Will develop tools that can be used to understand the observed variation in criminal activity, the organizational structure of criminal activity, and their broader consequences.
Spr POLS0820I S01 24433 Th 4:00-6:30(17) (D. Skarbek)

POL 0820L. Philosophy of the American Founding.
In framing our political system in the Constitution, who did the Founders rely on for their theoretical framework? In this course, we will explore the works of Montesquieu, Adams, Franklin, Jefferson, Madison, Hamilton, and other contributors to the Constitution. Enrollment limited to 19 first year students.
Spr POLS0820L S01 24430 W 3:00-5:30(10) (W. Schiller)

POL 0820T. Women's Work and Welfare in Global Perspective.
The seminar looks at how welfare systems structure women’s participation in the workplace, family and society, including: women’s roles in domestic economies; migration flows from poor to rich states, gendered divisions of labor; human trafficking; and pro-natalist responses to population decline. Attention is devoted to policies that support women and families, including welfare, work-and-family reconciliation; micro-financing, conditional income support programs; and the growing role of women’s and non-governmental organizations in welfare policy. Cases are drawn from Europe, Latin America, Asia, Russia and the United States.
Spr POLS0820T S01 24400 Th 4:00-6:30(17) (L. Cook)

POL 0920A. Bleeding Heart Libertarianism.
What is libertarianism? In what sense can libertarians claim to combine the best of the “right” with the best of the “left”? Why do libertarians emphasize private property? Why are they skeptical of political agency? Are libertarians anti-democratic? Can they care about social justice? How do libertarians approach problems such as racism, sexism, militarism, state surveillance, global inequality, and environmental sustainability? This course will consider such questions from a variety of texts in the libertarian tradition, contemporary and classical.
Spr POLS0920A S01 24442 F 3:00-5:30(15) (J. Tomasi)

POL 1010. Topics in American Constitutional Law.
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: campaigns and elections; the role of campaign finance; the role of social movements and other contributors to the Constitution. Enrollment limited to 19 first year students.
Fall POLS1010 S01 15592 MWF 1:00-1:50(06) (C. Brettschneider)

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 antiquities, 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.
Spr POLS1020 S01 24392 MWF 9:00-9:50(02) (P. Andreas)

POL 1040. Ancient Political Thought.
The Greeks stand at the beginning of the Western tradition of political philosophy, yet their thought is somehow foreign. What was the special perspective from which they viewed political life? In what ways does their perspective vitalize, contest, deepen, or affirm our own thinking on justice, politics, and the good life? This course will examine these and other questions with a special emphasis on the works of Plato and Aristotle.
Fall POLS1040 S01 15605 MW 8:30-9:50(01) (S. Krause)

POL 1050. Ethics and Public Policy.
Examines moral foundations of important policy issues in the American national context as well as at Brown. Considers issues like: What is the just distribution of resources and opportunities in society? And complementary policy issues like: affirmative action, immigration, public provision of health care and social welfare. Asks whether/how liberal democracies can come to consensus on contentious moral issues like abortion, and what the ethical roles of politicians and citizens are in such struggles.
Fall POLS1050 S01 15596 TTh 1:00-2:20(08) (R. Cheit)

POL 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, detailed paper, take-home final exam and 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 24444 TTh 1:00-2:20(08) (R. Avenberg)

POL 1120. Campaigns and Elections.
This course is designed to survey both historical and contemporary elections at both the congressional level, emphasizing the 2012 elections. Topics include campaigns, money, parties, candidates, voting behavior, public policy, and the media.
Fall POLS1120 S01 15632 MWF 12:00-12:50(15) (R. Avenberg)

POL 1140. Public Opinion and American Democracy.
Public opinion is an essential component of democracy. Considering the lack of familiarity about current events, how does public opinion affect public policy? Perhaps more importantly, should it? To assess these questions, we will explore how to measure public opinion and what polls tell us. We will then assess the roots of public opinion and analyze the public policy and representational impact of people's preferences.
Spr POLS1140 S01 24440 MWF 1:00-1:50(06) (P. Testa)

POL 1150. Prosperity: The Ethics and Economics of Wealth Creation.
What is prosperity? Whom does prosperity benefit? Which institutions and attitudes produce prosperity? What is the relation of prosperity to other values such as efficiency, happiness, equality, fairness, religious faith or personal freedom? This course explores the problem of prosperity from a variety of disciplinary perspectives: philosophical, economic, historical, religious, and literary. No Prerequisites. Freshmen welcome.
Fall POLS1150 S01 15626 MW 8:30-9:50(01) (J. Tomasi)

POL 1200. Reimagining Capitalism.
Debates over capitalism and its alternatives date back centuries. Proponents say that market institutions have enabled extraordinary productivity growth and life-saving innovations. Trade and the division of labor have been central to human progress in recent centuries. Capitalism's critics point out that the growth of market economies has often had unacceptable consequences. The course is organized around four main challenges facing market economies today: environmental degradation, labor exploitation, inequality, and crisis. Can capitalism be reformed to solve the problems that it has helped generate, or is a market system unequipped to grapple with social and environmental challenges?
Fall POLS1200 S01 16170 TTh 8:30-10:00 (R. Locke)

POL 1240. Politics, Markets and States in Developing Countries.
How can we explain fundamental differences in economic performance and policy across developing countries in the face of Globalization? Why are some countries praised as economic "miracles," yet others seem mired in inescapable stagnation? This course addresses these questions by introducing the basic topics, concepts, and theoretical approaches that comprise the field of political economy of development. The course draws on case studies from Asia, Africa, and Latin America.
Spr POLS1240 S01 24434 TTh 2:30-3:50(11) (R. Snyder)
POLS 1250. The Politics of European Democracies.
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 24447 TTh 9:00-10:20(01) (J. Ziegler)

POLS 1285. Quality of Democracy in Latin America.
Focus on democratic quality in modern Latin America, its failures as well as its successes. Topics include police violence, the rule of law, indigenous movements, gender and gay rights, anti-poverty policy, and direct democracy. Will draw on material from across the Spanish and Portuguese speaking democracies in the region. We will engage with different theories of what makes democracies representative and accountable to their citizens. Not open to first years.
Fall POLS1285 S01 15629 TTh 1:00-2:20(08) (R. Weitz-Shapiro)

POLS 1290. The Rise of China.
This course examines the causes and consequences of China’s societal transformation and emergence as a global power. Employing perspectives from comparative politics, international relations, and economics, the course explores the connections between China’s domestic transformation and its integration with the global system. Lectures and readings cover the historical antecedents of China’s rise, the contemporary relationship between state and citizen, the nature of China’s global competitiveness, and likely future avenues for socio-political change.
Fall POLS1290 S01 15620 TTh 9:00-10:20(02) (E. Steinfeld)

POLS 1315. Social Groups in American 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.
Spr POLS1315 S01 24439 TTh 10:30-11:50(09) (K. Tate)

POLS 1325. Political Organizations and Social Change in America.
Will examine efforts to create significant policy change in contemporary political and social life in United States. We examine strategies of social change; explore the characteristics of advocacy organizations; and consider how organizations can expand their political toolkits as they seek to create social change. In addition, we will examine the relationship between organizations, members, and activists. Why do so many organizations lack active members? What does it take to turn members into activists? Among the cases we examine are the Civil Rights Movement, the Tea Party, Alinsky organizations, Black Lives Matter, the Koch Brothers Network, Dreamers, and organized labor.
Fall POLS1325 S01 15628 MWF 2:00-2:50(07) (M. Weir)

POLS 1350. Asian American Politics.
Examination of the historical and contemporary political experiences of Asian Americans and their respective pursuits for immigration, equality, citizenship, political identity, racial justice, cross-racial/ethnic coalition-building, and incorporation into the U.S. political system. The course will also explore the effectiveness of the ‘pan-ethnic’ identity in contemporary US politics.
Spr POLS1350 S01 24405 MWF 11:00-11:50(04) (T. Jost)

POLS 1390. Global Governance.
Examines the institutions and the processes by which states and other actors seek to provide "governance" in the international system. The class explores the history of, and various theoretical perspectives on, the role of the UN and other international organizations in the state system. It also considers their roles in a range of political, military, economic, environmental, and humanitarian issues. Pre-requisite: POLS 0400
Fall POLS1390 S01 15621 MWF 10:00-10:50(14) (N. Tannenwald)

POLS 1415. Classics of Political Economy.
Traces the most important classical statements of political economy through consideration of the major contributions to the "political" study of the economy from the seventeenth century to the present; Locke, Ricardo, Smith, Rousseau, Mill, Bentham, Marx, Mill, Marshall, Keynes, Hayek, Friedman, and Lucas. By mapping the parallel evolution of the liberal/capitalist economy and the liberal/democratic notion of the individual, both a product of and a producer within this economy, the course will demonstrate the political nature of economics and the economic bases of politics. First year students require instructor permission.
Fall POLS1415 S01 15599 TTh 2:30-3:50(12) (A. Gourevitch)

POLS 1420. Money and Power in the International Political Economy.
Examines how the interaction of states and markets create distinct global monetary and political orders. Class analyzes the shift from the classical liberal Gold Standard through the Post-War Bretton Woods arrangements through to the globalized IPE of today.
Spr POLS1420 S01 24395 MWF 10:00-10:50(03) (M. Blyth)

POLS 1465. Introduction to Political Economy.
This class provides an introduction to topics in political economy with a focus on using basic models to understand both individuals and groups facing a variety of social dilemmas. Simple formal models will provide a framework for understanding problems in politics and political economy, including the collective action problem, prisoner’s dilemma, coordination problems, and more generally the importance of formal and informal institutions in guiding social outcomes. The class surveys major thinkers in political economy and uses their ideas to understand major changes in society, markets, and states from an historical perspective.
Fall POLS1465 S01 15617 MWF 11:00-11:50(16) (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 competing 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.
Spr POLS1500 S01 24438 MWF 2:00-2:50(07) (N. Tannenwald)

POLS 1530. Gender, Slavery, and Freedom.
Will examine how gender shaped slavery in the Americas. How did the experiences of enslaved men and women differ? Did the experiences of enslaved women result in specific practices that formed the basis for resistance to slavery and dehumanization? How did gendered experiences of slavery in turn affect the notions of freedom that were developed in post-emancipation societies? We will also consider how practices or ideas developed during slavery have contributed to the “afterlife” of slavery after official emancipation. We will analyze slavery as a concrete set of practices that were experienced and negotiated differently by enslaved men and women.
Fall POLS1530 S01 15602 TTh 10:30-11:50(13) (J. Hooker)

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.
Fall POLS1600 S01 15625 MWF 2:00-2:50(07) (P. Testa)
POLS 1770. Education, Inequality, and American Democracy.
How are public schools and the educational programs they offer products of political inequality? How might public schools remedy those inequalities or exacerbate them? This course examines the ways in which education contributes to democratic governance; how the development of American public schools builds on and reproduces political, economic and social privilege and inequality; and the promise and limitations of various types of reforms designed to redress inequality, including the Common Core.
This course focuses primarily on the United States, but looks to other democracies, including Canada and Mexico, to understand the intersection of education, inequality and democratic governance.
Fall POLS1770 S01 15609 MWF 9:00-9:50(01) (S. Moffitt)

This course explores the theory and praxis of black protest in the Americas, which were formulated in response to the different racial orders that developed in the U.S. and Latin America. We will analyze how black mobilizations mobilized to escape slavery, resist racial terror and white supremacy, gain rights from the state, protect black life, and overcome various forms of dehumanization. Examples will include anti-lynching campaigns in the U.S., the civil rights and other black movement of the 1960s, the Black Lives Matter movement, and mobilizations against “black genocides,” police violence, and displacement in Brazil and other Latin American countries.
Fall POLS1820F S01 15603 Th 4:00-6:30(04) (J. Hooker)

POLS 1820G. Politics and Nature.
This course investigates the politics of the relationship between people and the earth; examines the environmental consequences of this relationship as it currently exists, as well as its impact on human justice and freedom; and explores alternative political imaginaries and institutional forms that include the non-human, evaluating their implications for sustainability, justice, and freedom. In the course of considering the political relationship between human beings and the earth, we examine core political concepts including domination, freedom, agency, sovereignty, democracy, justice, liberalism, rights, representation, and the political. We also explore the relationship between politics and ethical life.
Fall POLS1820G S01 15708 W 3:00-5:30(17) (S. Krause)

POLS 1820H. Contraband Capitalism: States and Illegal Global Markets.
This course explores the clandestine side of the global economy (including flows of drugs, people, weapons, and money) and state policing efforts. We will examine the organization of these activities, how they intersect with the state and legal economy, their relationship to armed conflicts, and how they shape (and are shaped by) domestic and international politics. Enrollment limited to 20 juniors and seniors concentrating in Development Studies, Political Science, or International Relations. Course is not open to students who have taken POLS 1020.
Fall POLS1820HS01 15581 F 3:00-5:30(11) (P. Andreas)

POLS 1820X. Democratic Erosion.
This course explores the causes and consequences of democratic erosion in comparative and historical perspective. The course will provide an opportunity for students to engage, critically and carefully, with the claims they have doubtlessly already heard about the state of democracy in the US and Europe; to evaluate whether those claims are valid; and, if they are, to consider strategies for combating democratic erosion here and abroad. The course will be taught simultaneously at roughly two dozen universities, with a number of cross-campus collaborative assignments. Interested students should attend the first day of class to apply for admission.
Fall POLS1820XS01 15583 W 3:00-5:30(17) (R. Blair)

POLS 1820Z. The Rise of Populism and Illiberalism in East-Central Europe.
Why are Poland, Hungary, and other East-Central European (ECE) States moving away from democracy, market economies and the European Union toward populist politics? After the collapse of Communism in 1989, ECE states embraced democracy, liberal economies and their ‘return to Europe’ after decades of Soviet domination. By 2007 all had entered the European Union, and political scientists viewed most as ‘consolidated’ democracies. In the years since, populist parties have emerged, won elections, and promoted illiberal, nationalistic and anti-EU policies. The class focuses on explaining this dramatic political change, focusing on economic pressures, identity politics, societal welfare, and other factors.
Spr POLS1820Z S01 24401 F 3:00-5:30(15) (L. Cook)

POLS 1821I. Issues in Democratic Theory.
This seminar engages contemporary issues in democratic theory. Topics explored include the meaning of democracy (and the political consequence of different answers to that question); representation and citizenship; democracy and rights, (free speech, religious freedom, and privacy); democracy and judicial review; deliberative democracy. We will read works of political theory and United States Supreme Court cases. Enrollment limited to 20 juniors and seniors concentrating in Political Science.
Spr POLS1821I S01 24396 M 3:00-5:30(13) (C. Brettschneider)

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 24451 T 4:00-6:30(16) (J. Robbins)

POLS 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. Enrollment limited to 20 juniors and seniors.
Fall POLS1821PS01 15608 Th 4:00-6:30(04) (R. McDermott)

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.
Fall POLS1821VS01 15619 M 3:00-5:30(05) (R. Snyder)

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
POLS 1822B. Foundations of Political Economy.
This course is both historical and theoretical and overlaps with the disciplines of political science, history, economics, and political theory. Based around an in-depth reading of "the classics" of political economy, the course traces the evolution of political economy through a consideration of some of its major contributions from the seventeenth century to the present; Locke, Ricardo, Smith, Rousseau, Mill, Bentham, Marx, Keynes, Kalecki, Hayek, Friedman, Lucas and Minsky shall be examined.
Fall POLS1822BS01 15631 M 3:00-5:30(05) 'To Be Arranged'

POLS 1822C. Congress.
Taking a comprehensive view of the U.S. Congress, its structure, procedures, elections, parties, constituencies and its interactions with the president and the courts. The Constitution establishes the Congress as the first branch and guardian of the nation’s purse strings. This course will examine the strengths and vulnerabilities of the modern Congress with its highly polarized political parties. Requires extensive reading, a detailed paper and active class participation. Students are expected to pay careful attention to current events in the U.S Congress. Enrollment limited to 20 juniors and seniors in Political Science.
Fall POLS1822CS01 15633 F 3:00-5:30(11) (R. Arenberg)

POLS 1822H. Patronage and Corruption in Comparative Perspective.
In recent years, the issue of "governance" has attracted increasing attention. Why are some countries more corrupt than others? Why do some governments distribute government programs equitably, while others manipulate them for political ends? The purpose of this class is to characterize, examine, and, to the extent possible, explain the persistence of these "bad governance" practices in many democracies in the developing world. We will draw on examples from Latin America, Africa, and Asia, and we will also make comparisons with appropriate current and historical cases from Western Europe and the United States. Enrollment limited to 20 junior and senior Political Science concentrators. Spr POLS1822HS01 24446 M 3:00-5:30(13) (R. Weitz-Shapiro)

POLS 1822I. Geopolitics of Oil and Energy.
Oil is the single most valuable commodity traded on global markets. This course is designed to introduce students to the international political economy and security dimensions of oil and energy. The course explores the industry’s many impacts on politics and economics, including: Dutch disease and the resource curse; the relationship between oil, authoritarianism, and civil wars; the role of the rentier state; the influence of oil on international warfare; global energy governance (e.g., OPEC); political differences within OPEC; US energy policy and energy security. The materials focus primarily on the political economy of oil-exporters, especially those in the Middle East.
Spr POLS1822I S01 24399 W 3:00-5:30(10) (J. Colgan)

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 waging 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.
Fall POLS1822US01 15622 M 3:00-5:30(05) (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 the history of the select 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 POLS1822WS01 15634 T 4:00-6:30(09) (J. Robbins)

POLS 1823I. 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.
Fall POLS1823I S01 15623 Th 4:00-6:30(04) (K. Tate)

When are we most free, at work or at leisure? Is work the same as paid employment? Is leisure the same as idleness? When, in turn, are we unfree at work, and what kinds of unfreedom are we subject to that are peculiar to modern life? Such questions press with particular urgency at a time when both unemployment and overwork are major complaints, and when many people find that work takes up the majority of their day yet is unsatisfying. Readings will include philosophers like Aristotle, Bertrand Russell, G.A. Cohen and Charles Taylor, and writings from the sociology of work. Enrollment limited to 20 juniors and seniors.
Spr POLS1823JS01 24402 W 3:00-5:30(10) (A. Gourevitch)

POLS 1823S. Crafting Citizens: Democratic Theory and Civic Education.
How should liberal democracies educate members for citizenship? What is the appropriate role of the state in defining an appropriate civic education? Students will develop well-researched normative arguments on civic education policy. Will examine the tension in contemporary democratic theory between value pluralist calls for restraint on the part of the state and a liberal-democratic insistence on the need to promote and sustain allegiance to core values. Will draw on current empirical insights and controversies, will consider ways in which pressing needs for social action to counteract inequitable social dynamics may complicate a normative liberal democratic vision for civic education.
Fall POLS1823SS01 15612 F 3:00-5:30(11) (E. Patashnik)

POLS 1823Z. Gender and Public Policy.
This course explores when and how gender matters to U.S. policymaking, and how views about gender affect the development and implementation of different kinds of public policies. The course will examine gender in the context of key parts of the policymaking process including agenda-setting, group mobilization, issue framing, institutional decision-making (in the executive, legislative and judicial branches), and policy implementation. Class readings will cover four different public policy domains including social welfare policy, health policy, abortion rights, and marriage equality. Students will be able to examine other policy domains in the course of classroom discussions and in their written work.
Spr POLS1823ZS01 24407 M 3:00-5:30(13) (S. Moffitt)

POLS 1824C. Political Communication.
This course will focus on the importance of written and oral communication in public decision-making, particularly in the Congressional context. The course will examine the impact on political interactions, and the influencing of public policy decisions and outcomes. The course will emphasize some of the practical tools for producing relevant, useful material in the professional policy and the political communications arenas. The course requires several writing assignments focusing on different public policy analyses and political communications tools as well as active class participation including oral presentations.
Spr POLS1824CS01 24450 1 4:00-6:30(16) (R. Arenberg)

POLS 1824G. Farms, Fisheries, and Politics.
This seminar compares and contrasts the politics of agriculture and the politics of fisheries in the United States. The course examines the rise of the farm bloc and the agricultural welfare state, along with the evolving politics of the farm bill. It then turns to the governance of fisheries and the apparent disconnect between fisheries management and "fish as food." The final part of the course is devoted to a synthesis of perspectives on food and fisheries, including case studies developed through student research. Limited to Political Science concentrators.
Spr POLS1824GS01 24397 F 3:00-5:30(15) (R. Cheit)

For up-to-date course information please visit Courses@Brown.edu (https://cacb.brown.edu).
POLS 1824M. The Politics of Race and the Criminal Justice System. This course examines the politics of race and the criminal justice system in the U.S. It proceeds in three parts. First, it examines the political origins and consequences of racial disparities in citizens’ interactions with the police, courts and prisons. Next, it considers how the public, the media, and politicians relate and respond to these issues. Finally, the course concludes by examining the prospects for reform and the consequences of inaction.

Spr POLS1824M S01 24441 F 3:00-5:30(15) (P. Testa)

POLS 1824Q. The International Politics of Climate Change. Addresses the problem of climate change from the perspective of political science, and in particular its international dimensions. Will provide students a chance to discuss the current state of affairs and to ultimately be able to form an opinion of what can and should be done to address the problem. Broadly, the course has two parts. The first part is a three-week introduction to the subject matter, addressing basic themes, mechanisms, and institutions. The second part is a seven week set of three units, each addressing a set of issues: common solutions to climate change, geopolitical debates, and future controversies.

Spr POLS1824Q S01 24428 T 4:00-6:30(16) "To Be Arranged"

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 15597 W 3:00-5:30(17) (R. Cheit)

POLS 1920. Senior Honors Thesis Preparation. This course is a continuation of POLS 1910. Political Science Honors students who are completing their theses should enroll. Prerequisite: POLS 1910. Instructor permission required.

Spr POLS1920 S01 24398 Th 4:00-6:30(17) (R. Cheit)

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 2000. Strategies of Inquiry and Research Design. Introduction to research methods common in political science research. Topics include theory development, problems of explanation and causation, problem identification, research design, and other fundamentals of empirical research. FIRST YEAR POLITICAL SCIENCE GRADUATE STUDENTS ONLY. Enrollment limited to 14.

Spr POLS2000 S01 24436 W 4:00-6:30 (R. Snyder)


Spr POLS2020 S01 24409 W 3:00-5:30(10) (J. Morone)

POLS 2025. American Social Policy in Comparative Perspective. This course provides a graduate-level survey of the politics that shape social and redistributive policies in the United States. We will consider what is distinctive about American social policy compared with social protection in other advanced economies. Will begin with different approaches to understanding variation in welfare states. Will examine distinctive features of American policy including reliance on tax benefits, federalism, racial politics, politics of gender, strategies of privatization, and housing in economic security. We conclude by considering factors that will shape the future of social policy including the politics of retenchment, social investment, and racial and ethnic diversity.

Spr POLS2025 S01 24445 M 1:30-4:00 (M. Weir)

POLS 2040. 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 POLS2040 S01 15618 Th 1:30-4:00 (D. Skarbek)

POLS 2050. Preparing the Prospectus I. This course covers selected topics in research design and methodology and is designed to help students enrolled in the Political Science PhD program to write and defend a prospectus in their third year of study.

Fall POLS2050 S01 15611 M 6:30-9:00PM (J. Morone)

POLS 2051. Preparing the Prospectus II. This course covers selected topics in research design and methodology and is designed to help students enrolled in the Political Science PhD program to write and defend a prospectus in their third year of study.

POLS 2070. U.S. Public Opinion. This class provides an introduction to the major theoretical approaches and applied research in the study of U.S. public opinion. We examine opinions on a variety of topics. Enrollment limited to 14 Political Science graduate students.

Fall POLS2070 S01 15624 W 1:30-4:00 (K. Tate)

POLS 2110. Proseminar in Comparative Politics. Provides a survey of major approaches, issues, and debates in the field of comparative politics. Topics: state formation, revolutions and civil wars, ethnic conflict and nationalism, state-market relations; systems of representation, hegemony and domination, etc. Works of theoretical importance on each topic, focusing on authors’ arguments and controversies within the literature. Open to graduate students only.

Fall POLS2110 S01 15606 Th 4:00-6:30(04) (R. Locke)

POLS 2120. Proseminar in Political Theory. An overview of central debates in political theory today. Readings include contemporary writings on justice, liberalism, democratic theory, critical theory, feminism, power, multiculturalism, and citizenship and political economy. Enrollment limited to 14 graduate students in Political Science; advanced undergraduates may enroll with permission of the instructor.

Fall POLS2120 S01 15601 F 8:30-11:00 (A. Gourevitch)

POLS 2135. International Order. This course investigates the roots of international conflict and security, with a special emphasis on political economy factors. As a field, international relations has gradually separated into two fairly distinct sub-fields, international political economy and international security. This course seeks to bridge the two. Special attention will be paid to understanding macro-historical shifts, such as the end of empire and the emergence of the Long Peace after World War II.

Fall POLS2135 S01 15679 Th 8:30-11:00 (J. Colgan)

POLS 2145. Transnational Governance in the Global Economy. Will examine an array of transnational governance schemes which seek to address social and environmental problems in a globalized world. Whether it is global warming, deforestation in the Amazon, inhumane working conditions in Asian factories of global supply chains, limited access to medicine, or child poverty – the elaboration of cross-border institutions that potentially can help to resolve these problems is likely to require the involvement of variety of actors with different types of information and knowledge from geographically and socially distant parts of the world.

Spr POLS2145 S01 24410 Th 8:30-11:00 "To Be Arranged"
This course will examine contemporary and historical work in the area of democratic political and legal theory. Topics include the relationship between democracy and individual rights, deliberative vs. aggregative conceptions of democracy, the substance/procedure controversy, and the role of judicial review in a democracy. Open to graduate students only.
Fall POLS2150 S01 15594 M 3:00-5:30(05) (C. Brett Schneider)

POLS 2160. International Political Economy.
Graduate seminar that surveys the subfield of international political economy. Outlines the historical development of the subfield as it moved from questions of US decline to issues of international cooperation and compliance and back to issues of US decline. Places the US research agenda in comparison with schools of IPE in the rest of the world. Topics covered include globalization and distribution, development, IGOs and NGOs in the IPE, Public and Private Authority, the rise and fall of nations. Open to graduate students only.
Fall POLS2160 S01 15590 M 1:30-4:00 (M. Blyth)

POLS 2175. Ideas, Institutions and Politics.
A Graduate level survey of the literatures on institutions and ideas in political science, and on occasion, in related fields. These literatures are often seen as rival bodies of literature. These literatures are in fact compliments, with much empirical work combining both approaches in a productive manner. The point engaging the literature in this way is to question the presumption that interests should remain the most popular conceptual tool for political science explanation. This is a puzzle when one considers that interests are always formed within, and are causally affected by, both institutional environments and the ideas that they enshrine.
Spr POLS2175 S01 24432 W 1:30-4:00 (P. Singh)

POLS 2220. Urban Politics.
Covers a number of topics linked to urban politics and urban public policy. Topics include the politics of urban education, affordable housing, downtown development. Examines how state and federal policy actions have contributed to the nature of the urban condition; and how race, class and ethnicity are interwoven with urban politics and urban public policy. Enrollment limited to 14. Graduate Students only; all others by permission only.
Spr POLS2220 S01 24408 Th 4:00-6:30(17) (M. Orr)

POLS 2245. The International Political Economy of Global Finance.
Although global finance is back in vogue since the 2008 crisis, it remains a frontier of research in mainstream political science. It is an excellent area to conduct research since it remains an ‘open range’ of inquiry. The course is divided into three parts. First covers classic accounts of the politics of global finance from within political science and related areas. Second focuses in on the best accounts of the 2008 crisis. Third discusses areas such as Risk Management, Hedge Funds, Money Laundering, Quantitative Finance, and Sovereign Debt that occupy the new frontier of political science research.
Spr POLS2245 S01 24449 M 4:00-6:30 (To Be Arranged)

POLS 2300. Latin American Political Thought.
Latin American political thinkers, who have been tremendously influential in their own region, remain marginal to the canon of Western political thought. This course is an overview of the various traditions in the history of Latin American political thought. It examines the answers Latin American thinkers have given to some of the fundamental preoccupations of political theory from the perspective of the region’s social and political realities. The course will introduce students to figures in Latin American political thought—such as Bartolomé de las Casas, Simón Bolívar, Domingo F. Sarmiento, José Martí, José Vasconcelos, José Carlos Mariátegui, and contemporary Latino political theorists.
Spr POLS2300 S01 24404 M 4:30-7:00 (J. Hooker)

POLS 2320. Ethnic Conflict.
What is ethnicity? What does it share with nationalism and in what respects is it different? Why do ethnic groups fight violently and kill wantonly, especially after living peacefully for a long time? Under what conditions do they manage their relations peacefully? Do people participate in ethnic insurgencies because of greed or grievance? Will ethnic groups disappear as modernity proceeds further? These questions will guide our intellectual journey over the semester. Graduate students only; qualified undergraduates with instructor’s permission. Enrollment limited to 14.
Fall POLS2320 S01 15627 W 3:00-5:30(17) (A. Varshney)

Through close readings of Du Bois’s texts, we will explore the relationship between his political philosophy and his conceptualization of race at different stages of his intellectual and activist career as well as his understanding of democratic politics, the place of the black masses therein, and the status of women. We will also pay attention to Du Bois’s retrospective self-criticism, to his reliance on fictional and other artistic genres of writing to advance philosophical claims. Drawing on reflections by Du Bois and Locke, we will reflect on how to think about art as a site of moral and political transformation in matters of race.
Fall POLS2340 S01 15614 W 4:00-6:30 (M. Rogers)

POLS 2360. Ancients and Moderns: Quarrels and Continuities.
Examines the political thought of Plato and Aristotle together with three modern thinkers whose work was especially influenced (or animated) by engagement with these ancient views of politics: Machiavelli, Rousseau, and Nietzsche. In exploring these moderns in particular, we also get a view of early modern, high modern, and postmodern receptions of the ancients. Enrollment limited to 14. Open to graduate students.
Spr POLS2360 S01 24406 T 8:30-11:00 (S. Krause)

POLS 2450. Exchange Scholar Program.
Fall Spr POLS2450 S01 15526 Arranged ‘To Be Arranged’
Spr Spr POLS2450 S01 24316 Arranged ‘To Be Arranged’

POLS 2580. Introduction to Quantitative Research Methods.
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 Stata as they develop statistical models and analyze their data. Enrollment limited to 14. Open to graduate students in Political Science only.
Fall POLS2580 S01 15615 M 4:00-6:30 (To Be Arranged)

POLS 2590. Quantitative Research Methods.
An intermediate statistics course for graduate students. Topics include multiple regression, statistical inference, categorical dependent variable models, instrumental variable models, and an introduction to time series. Course readings and applications examine models used in different fields of political science and public policy including American institutions, comparative politics, and international relations. Open to graduate students concentrating in Political Science or Public Policy.
Spr POLS2590 S01 24394 Th 4:00-6:30(17) (R. Blair)

POLS 2975. 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.

POLS 2976. 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.

POLS 2980. Individual Reading and Research.
An independent study course directed by a tenure-line faculty member in the Department of Political Science. 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://cabs.brown.edu).
POLS 2981. Individual Reading and Research.
An independent study course directed by a tenure-line faculty member in the Department of Political Science. Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

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

POLS 2991. Thesis Research and Preparation.
Section numbers vary by instructor. Please check Banner for the correct section number and CRN to use when registering for this course.

Portuguese and Brazilian Studies

POBS 0110. Intensive Portuguese.
A highly intensive course for students with little or no preparation in the language. Stresses the fundamental language skills of understanding, speaking, reading, and writing. Aspects of Portuguese and Brazilian culture are also presented. Uses a situational/natural approach that emphasizes communication in Portuguese from the very first class. A two-semester sequence in one semester with ten contact hours each week. Carries double credit and covers the equivalent of two semesters. This course should be chosen, in the fall, by students beginning the study of Portuguese as sophomores who would like to participate in the Brown-in-Brazil Program as juniors. Offered every semester.

POBS 0400. Writing and Speaking Portuguese.
Designed to improve the students' ability in contemporary spoken and written Portuguese. Using such cultural items as short stories, plays, films, videos, newspaper and magazine articles, and popular music, students discuss a variety of topics with the aim of developing good communication skills. Attention also given to developing writing ability. A systematic review of Portuguese grammar is included. Prerequisite: POBS 0200, or POBS 0110, or placement. Conducted in Portuguese. Completion of POBS 0400 is the minimum requirement for participation in the Brown-in-Brazil Program. Offered every semester.

POBS 0610. Mapping Portuguese-Speaking Cultures: Brazil.
Selected literary and cultural texts that serve as vehicles for a deeper understanding of Brazilian society. Literary materials will be taken from several genres and periods with special attention to contemporary writings. Other media such as film and music will also be included. Considerable emphasis on strengthening speaking and writing skills. Prerequisite: POBS 0400, placement or instructor's permission. Conducted in Portuguese. Fall POBS0610 S01 16880 TTh 1:00-2:20(08) (P. Sobral) Spr POBS0610 S01 16180 TTh 1:00-2:20(08) (P. Sobral)

POBS 0620. Mapping Portuguese-Speaking Cultures: Portugal and Africa.
Selected literary and cultural texts that serve as vehicles for a deeper understanding of Portuguese and Luso-African societies. Literary materials will be taken from several genres and periods with special attention to contemporary writings. Other media such as film and music will also be included. Considerable emphasis on strengthening speaking and writing skills. Prerequisite: POBS 0400, placement or instructor's permission. Conducted in Portuguese.

POBS 0810. Belonging and Displacement: Cross-Cultural Identities.
Focuses on the representation of immigrants, migrants and other "border crossers" in contemporary literature from Brazil and other countries. How do people respond to the loss of home and the shift to a new culture? Is "going home" possible? How do individuals deal with their dual or triple identities? Piñon, Lispector, Sciar, Rushdie, Salih, Cristina Garcia, V.S. Naipaul and others. Conducted in English. Enrollment limited to 19 first year students.

We will analyze a new mindset that would later be called modernity slowly emerged from the medieval world and how the trials and errors of the 15th and 16th century navigators helped shape that transformation. The seminar is interdisciplinary insofar as the readings will include developments in astronomy, geography, shipbuilding, mathematics, philosophy, as well as what could be called early anthropology, as stepping stones to the first scientific revolution. Conducted in English. Enrollment limited to: 19. Reserved for First Year students.

POBS 1030. Portuguese Stylistics: Advanced Language Study and Creative Writing.
An intensive writing course covering basic genres: letter, short essay, diary, short story, and poetry. Students write five pages per week on five different preassigned topics that range over a wide variety of subjects. Exposes students to idiomatic and stylistic writing in a multitude of areas. In class, students read and comment on each other's writings. Enrollment limited to 20. Conducted in Portuguese.

Examines both fictional narratives written in Portuguese by African authors and fictional works by Portuguese authors that focus on the colonial experience of Angola, Mozambique, and Cape Verde. Aims in particular at the critical analysis of Portuguese colonialism as a means to verify its specificity or lack thereof within the larger context of overarching European colonialisms. Conducted in Portuguese.

POBS 1501B. Artful Teaching: Intersecting the Arts with Foreign and Second Language Acquisition.
How can we create meaningful experiences for those learning a foreign or second language? What makes the creative arts (art)iculate so powerfully and naturally with foreign and second language acquisition? How do the arts enable students to become aware of surrounding cultures while simultaneously acquiring a new language? This course will explore connections between the arts--visual, literary and performing--and language acquisition in a combined workshop and seminar approach. Readings will include authors Sheridan Blau, Augusto Boal, Shirley Brice Heath, Paulo Freire, Jan Mandell, Twyla Tharp, Jeffrey D. Wilhelm and others.

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.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
POBS 2020B. Cross-Cultural Growth and Development.
Explores physical, cognitive, social and emotional human development from a cross-cultural perspective. Part one analyzes child-rearing practices in agrarian and industrialized societies. Part two is based on case studies involving the ethnolinguistic groups in the Providence area, which are studied and discussed with implications for teaching and learning. Conducted in English.

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, Graça Ribeiro and João Guimarães Rosa. Films by Glauber Rocha and Sandra Kogut. Conducted in Portuguese.

POBS 2500K. Senses and Sensibilities in the Nineteenth Century Portuguese Novel.
The works to be read are representative of the main literary trends in 19th century Portuguese literature. They will be analyzed with a focus on literary aesthetics, but also on meanings (or senses), both culturally and personally, by exploring the textual construction of emotions, i.e., the engagement of sensibilities in the written word. Authors to be studied include Almeida Garrett, Camilo Castelo Branco and Eça de Queirós. Conducted in Portuguese.

POBS 2600C. Foundations of Literary Theory.
Designed to provide a solid foundation on the development of literary theory from its ancient roots in Plato, Aristotle, Horace and Plotinus to the contemporary period. Includes Kant, the Russian Formalists, Lukács, Jakobson, Bakhtin, Barthes, Derrida, Ricoeur, Said and others. Conducted in English.

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.

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.

Public Affairs
MPA 2981. Independent Study.
This is an independent study course for the MPA program.
Provides an introduction to the classification, epidemiology, etiology, treatment and potential prevention of psychiatric disorders from a population perspective. Reviews the magnitude and social burden associated with mental disorders worldwide and opportunities to enhance prevention and treatment. Covers concepts and methods used to study mental illness at the population level, including definitions of "normality" and "pathology," current classification systems and measurement approaches to assess psychopathology and severity and cross-cultural issues. Covers the prevalence, risk factors, and etiology of major disorders of children, adolescents and adults, including autism spectrum disorders, attention deficit disorders, mood and anxiety disorders, schizophrenia and substance use disorders. PHP 0850 OR prior coursework in psychology, epidemiology, sociology or related fields.
Spr PHP1160 S01 25283 Th 12:00-2:30 (S. Skeels)

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 16747 TTh 1:00-2:20(08) (R. Gutman)

PHP 1560. Statistical Programming in R.
Statistical computing is an essential part of analysis. Statisticians need not only be able to run existing computer software but understand how that software functions. Students will learn fundamental concepts - Data Management, Data types, Data cleaning and manipulation, databases, graphics, functions, loops, simulation and Markov Chain Monte Carlo through working with various statistical analysis. Students will learn to write code in an organized fashion with comments. This course will be taught in a "flipped" format. Students will watch a series of videos and work through some simple coding examples before coming to class.
Fall PHP1560 S01 16766 Arranged "To Be Arranged" (S. Buka)

PHP 1600. Obesity in the 21st Century: Causes, Consequences and Countermeasures.
The scope of obesity knowledge is too large to cover during one single course, therefore we will focus primarily on obesity-related health outcomes, assessment of obesity, obesity epidemiology, social and behavioral correlates of obesity, obesity and stigma, policy and interventions across population groups. The readings for this course are multi-disciplinary in nature and integrate epidemiological, biological, sociological, political and philosophical perspectives. This course is specific to the United States and thusly all readings will reflect this contextual focus. Enrollment limited to 30.
Spr PHP1600 S01 25285 M 3:00-5:30(13) (A. Dulin)

PHP 1600. 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 PHP1600I S01 16751 W 3:00-5:30(17) (S. Skeels)

PHP 1680U. Intersectionality and Health Inequities.
This course examines health inequities in the U.S. from an intersectionality perspective. Intersectionality is both a theory and methodology focused on the power dynamics between oppression and privilege and how various axes of social categories and systems interrelate on various and simultaneous levels. This framework critically examines how systemic injustice and social inequity transpires on a multidimensional basis. This course provides a broad overview of health disparities in the U.S., specifically, examining them through intersecting structural and social factors (e.g., race and ethnicity; gender; immigration status; socioeconomic position; age; sexual orientation; and the promise and limitations of public policy).
Spr PHP1680U S01 25286 Arranged (J. Nazareno)

PHP 1700. Current Topics in Environmental Health.
This course is designed to introduce students to the field of environmental health, and demonstrate how environmental health is integrated into various aspects of our lives, both directly and indirectly. Topics to be covered include: toxic metals, vector-borne disease, food safety, water quality, radiation, pesticides, air quality, hazardous waste, risk assessment, and the role of the community in environmental health. Several topics will be presented by guest speakers so that students can learn from the expertise of professionals in the field. Enrollment limited to 65.
Fall PHP1700 S01 16787 Arranged (K. Kelsey)

PHP 1820. Designing Education for Better Prisoner and Community Health.
This course will provide the needed background and context for understanding the multiple issues and challenges facing prisoners and the national justice and health systems that impact their fate. In addition to contextual background, students in this course will attain the knowledge and skills needed to develop a final practical, real world health communication/ intervention project that addresses one or more health literacy challenges facing people who are incarcerated. Students interested in taking the course must contact the professor directly for information about obtaining an override.
Spr PHP1820 S01 25287 MW 3:00-4:20(10) (B. Brockmann)

PHP 1854. The Epidemiology and Control of Infectious Diseases.
Course objectives are to introduce students to methods and concepts in the study and control of infectious diseases. By the end of this course, students will have a solid foundation in the distribution, transmission, and pathogenesis of major infectious diseases that affect human populations. We will investigate methods to design and evaluate public health strategies to prevent or eliminate infectious diseases, including: outbreak investigation, disease surveillance, infection control, screening, and vaccination. The course is open to undergraduate students who have completed PHP 0320 or PHP 0850, and to graduate students who have completed or are concurrently enrolled in either PHP 2120 or PHP 2150.
Spr PHP1854 S01 25288 MW 9:00-10:20 "To Be Arranged" (E. Loucks)

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 16759 W 3:00-5:30(17) (E. Loucks)

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
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 smartphones 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. Fall PHP1890 S01 16768 Arranged (J. Brewer)

PHP 1900. Epidemiology of Disorders and Diseases of Childhood and Young Adulthood.
Students will learn about diseases and disorders of childhood and young adulthood, including allergies, autism, eating disorders, obesity, endometriosis, and migraines. Students will learn how these disorders are defined, how many youth are impacted, and the age-appropriate epidemiologic methods to study disorders and diseases during childhood, adolescence, and young adulthood, respectively. For the final project, students will pick a disease or disorder of interest that occurs during childhood, adolescence, or young adulthood, synthesize the results from multiple epidemiological studies, and concisely present this information in both a written report and an oral presentation. Spr PHP1900 S01 25290 T 9:00-11:30 (A. Field)

This dynamic course will provide an overarching public health capstone experience. Students will gain an in-depth knowledge by utilizing and strengthening oratory skills, written skills, and skills needed to work in teams. The instructor is formally trained in Internal Medicine, public health, health policy and clinical epidemiology, with experience which will be brought to the classroom. Topics will span public health successes, things that didn’t work, and things that need more work and effort. This seminar course will emphasize class discussion, interaction and debate regarding differing perspectives on each topic area, as well as in-depth discussion of the assigned readings. Fall PHP1910 S01 16752 W 3:00-5:30(17) (J. Ahluwalia)

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. Fall PHP1920 S01 16769 M 3:00-5:30(05) (D. Grigsby)

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. Fall PHP1970 S01 16772 W 3:00-5:30(17) (J. Ahluwalia)

Two semesters of PHP 1980, Honors Thesis Preparation, will be devoted to the development and implementation of an Honors project, and of the writing of the Honors Thesis for the Public Health Concentration. PHP 2030. Clinical Trials Methodology.
We will examine the modern clinical trial as a methodology for evaluating interventions related to treatment, rehabilitation, prevention and diagnosis. Topics include the history and rationale for clinical trials, ethical issues, study design, protocol development, sample size considerations, quality assurance, statistical analysis, systematic reviews and meta-analysis, and reporting of results. Extensively illustrated with examples from various fields of health care research. Recommended prerequisites: introductory epidemiology and statistics. Pre-requisites: (PHP 2120 or PHP 2150) and either PHP 2508, 2510, or 2520. Open to graduate students only. Fall PHP2030 S01 16753 M 1:00-3:30 (I. Garseen)

PHP 2040. Survey Research Methods.
Emphasizes the theory of sampling and survey methods and their application to public health research. Topics include: survey design and planning; principles of sampling and survey terminology; questionnaire construction; protection of human subjects; data collection (including interviewing and data coding procedures); and application, presentation, and evaluation of results. Suggested prerequisites: PHP 2120, and PHP 2508 or 2510. Open to graduate students only. Spr PHP2040 S01 25291 M 3:30-6:00 (M. Clark)

PHP 2060. Qualitative Methods in Health Research.
Introduces qualitative approaches to data collection and analysis in health research. Methods covered include: participant observation, key-informant interviews, focus groups, innovative data collection strategies, and non-obtrusive measures. Students will use applied projects to develop skills in: qualitative data collection and management, interviewing, transcript analysis using computerized software, triangulation between qualitative and quantitative data, and report preparation for qualitative studies. Enrollment limited to 20 graduate students. Spr PHP2060 S01 25292 F 9:00-11:30 "To Be Arranged" (M. Clark)

Applied Public Health is a two-semester sequence of courses designed to give students the skills and experiences they need to master understanding public health and health care systems, policy in public health, leadership, communication, interprofessional practice, and systems thinking. This will be achieved through a combination of lectures, in class exercises, homework assignments, and practical experience in a public health setting. The first course in the sequence (PHP 2071) is taken in the Spring of your first year. Spr PHP2071 S01 25293 T 1:00-2:20 (A. Gjelvik)

PHP 2072. Applied Public Health: Policy, leadership and communication.
Applied Public Health is a two-semester sequence of courses designed to give students the skills and experiences they need to master understanding public health and health care systems, policy in public health, leadership, communication, interprofessional practice, and systems thinking. This will be achieved through a combination of lectures, in class exercises, homework assignments, and practical experience in a public health setting. The second course (PHP 2072) is taken in the Fall of your second year. Fall PHP2072 S01 16754 T 1:00-2:20 (A. Gjelvik)

PHP 2090. Research Grant Writing for Public Health.
This course focuses on providing knowledge and experience in creating high quality public health research grant applications. Course objectives include developing significant and innovative scientific hypotheses, learning principles of effective written communication, and developing a research grant application suitable to submit for funding. Designed for Public Health School PhD students, post-doctoral fellows, and Masters students with advanced degrees (e.g. MD, PhD). Prerequisite: PHP 2120 or PHP 2150 or instructor permission. Fall PHP2090 S01 16772 W 9:30-12:00 "To Be Arranged" (A. Gjelvik)

Epidemiology quantifies patterns and determinants of human population health, with a goal of reducing the burden of disease, injury, and disability. An intensive first course in epidemiological methods, students learn core principles of study design and data analysis through critiques of published epidemiological studies as well as hands on practice through weekly 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 16773 TTh 10:30-11:50(13) "To Be Arranged" (M. Clark)

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
This course provides basic principles of human biology and its applications to public health. Examples of biology topics include the cardiovascular system, endocrine system, immune system, nervous system, genetics, cancer, cardiovascular disease, HIV/AIDS, and depression. Examples of applied topics include strengths and weaknesses of using biomarkers, accuracy and precision of biological measures, quality assurance and quality control methods for using biomarkers for public health research. Mixed teaching methods are used, including small group discussions, problem-based learning and guest lectures. Prerequisite: PHP 2120 (may be taken concurrently) or instructor permission. Enrollment limited to 20 graduate students.
Spr PHP2130 S01 25294 F 12:00-2:30 Th (K. Kelsey)

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.

Provides an introduction to the classification, epidemiology, etiology, treatment and potential prevention of psychiatric disorders from a population perspective. Reviews the magnitude and social burden associated with mental disorders worldwide and opportunities to enhance prevention and treatment.

PHP 2180. Interpretation and Application of Epidemiology.
This course builds upon the foundations of introductory epidemiology and a basic understanding of quantitative and conceptual methods, with a focus on the interpretation of the strength and meaning of epidemiologic findings. The goal is to help students develop critical thinking skills in order to become more sophisticated interpreters of epidemiologic evidence for guiding policy, clinical practice, and individual decisions, combining subject matter knowledge and epidemiologic methods to wisely evaluate the available research findings. We will focus on judging causality and identifying gaps that future research would need to fill to strengthen our understanding. Prerequisite required or permission of instructor.

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 2510 or 2507, or permission of the instructor. Co-requisite: PHP 2511 or 2508.

PHP 2200B. Nutritional Epidemiology.
This course provides a comprehensive and systematic review of contemporary issues in human nutrition that require the application of epidemiologic principles and quantitative methods. Substantive topics range from the assessment of molecular etiologies for health and disease outcomes to evidence-based development of clinical guidelines and public health policies for foods and dietary supplements. This course is designed for graduate trainees in public health or the division of biology and medicine, visiting fellows, and advanced undergraduates who want to understand or conduct research in human nutrition and dietary assessment related to health and diseases.

PHP 2200C. Perinatal Epidemiology: Women and Infants’ Health during Pregnancy in a Global Context.
This course introduces students to major topics that affect the health of women and their infants during pregnancy and the perinatal period. We will address issues relevant to both high and low-resource settings, but will pay particular attention to low-resource settings. The course covers pregnancy loss and pregnancy outcomes, chronic and infectious diseases during pregnancy, and key methodological issues when studying health outcomes during the perinatal period. The course will include course lectures, informal discussions with experts, and student-led discussions and journal clubs. Student will complete a course paper and brief presentation on a selected research topic. This course is open to masters and PhD students in any concentration or program who have taken an introductory epidemiology course such as PHP 2120 or PHP 2150, and, with instructor permission, to undergraduate students who have taken PHP 0850.

PHP 2200D. Reproductive Epidemiology.
This course provides an overview of topics related to reproductive epidemiology, including substantive epidemiologic information, methodologic issues pertinent to reproductive health, and maternal and child health services and programmatic topics. The first half of class sessions will be lecture-based, while the second half will involve the discussion of a published research study in a journal club format, and students are expected to actively participate in class discussions. After several introductory lectures, students will select topics and will be responsible for organizing a presentation and discussion under the instructors’ supervision.

PHP 2200H. The Epidemiology, Treatment and Prevention of HIV.
The purpose of this seminar is to use HIV as an example to introduce students to a variety of methodological issues in the epidemiologic study of infectious diseases. While we will study the treatment and prevention of HIV in detail, emphasizing the current state of knowledge and critiquing the most recent literature, this course aims to use HIV as an example to better understand the variety of methodological issues in global and domestic infectious disease epidemiology today. Enrollment limited to 25 students. Prerequisites: PHP 0850 or PHP 1854 (undergraduates); PHP 2120 or 2150 and PHP 2508 or 2511 (graduate students).

PHP 2250. Advanced Quantitative Methods in Epidemiologic Research.
This course provides students with conceptual and quantitative tools based on counterfactual theory to make causal inference using data obtained from observational studies. Causal diagrams will be used to provide alternative definitions of and inform correcting for common biases. Non-, semi-, and fully parametric methods for addressing these biases 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 or 2511, or PHP 2200 and 2508; or instructor permission. Enrollment limited to 25 graduate students.

For up-to-date course information please visit Courses@Brown.edu (https://cabs.brown.edu).
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 16778 Th 4:00-6:30(04) (D. Operario)

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 16779 T 12:00-2:30 (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 16780 MW 1:00-2:20 (P. Risica)
Spr PHP2355 S01 25300 MW 1:00-2:20 (T. Wray)

PHP 2360. Developing + Testing Theory-Driven, Evidence Based Psychosocial and Behavioral Health Interventions.
This is a graduate-level course designed to provide students with the knowledge and research skills necessary to develop and ultimately test a theory-driven, evidence-based psychosocial or health behavior change intervention. Drawing on research, theory, and practice, students learn how to conduct formative research to inform the content, structure, and format of an intervention, set goals/objectives, develop intervention materials/messages, and evaluate outcomes—all while taking into account factors such as gender, sexuality, race/ethnicity, poverty, culture, social-support/social-capital, etc. Research methods that are relevant for examining efficacy, including study-design, power/sample size calculations, fidelity monitoring, randomization, control conditions, measures selection/assessment, data collection, etc. are covered. Enrollment limited to 25 graduate students. Prerequisite: PHP 2120, 2508, or 2510. Instructor permission required.
Fall PHP2360 S01 16782 Th 12:00-2:30 (To Be Arranged)

PHP 2361. Proseminar in Health Behavior Intervention Research.
This course is required for doctoral students in Behavioral and Social Health Sciences. Students will consider advanced topics related to designing, implementing, and evaluating behavioral and social interventions to promote health. The course is designed as a proseminar, emphasizing discussion of primary readings and presentations by experienced intervention researchers.
Fall PHP2361 S01 16781 W 2:30-5:00 (K. Carey)

PHP 2371. Psychosocial and Pharmacologic Treatment of Substance Use Disorders.
Intended to provide an overview of the history of the treatment of substance use disorders; assessment methods designed to determine progress in substance use treatment; and the current most common types of psychosocial and pharmacologic treatments for substance use. Enrollment limited to 20 graduate and medical students. Instructor permission required.
Fall PHP2371 S01 16755 F 1:15-3:45 (P. Monti)

This class will explore Health Communication, with a focus on behavioral and social science interventions delivered through health communication programs. The course is structured so that basic building blocks (i.e., definitions of health communication, public health context for health communications interventions, theories of health communication and health behavior change) are presented sequentially early in the semester. Students will synthesize knowledge and demonstrate their understanding of the role of health communication through a final research project. Seniors with concentration in Public Health may enroll with instructor's permission. Enrollment limited to 20 graduate and medical students.
Spr PHP2380 S01 25302 M 2:30-5:00 (K. Carey)

Reviews the development of the health care delivery, financing and regulatory control systems in the U.S. and reviews the literature on the relationship between health system structure and the services used and health outcomes that populations experience. A case-study approach is used to understand the inter-relationship between financing, delivery and regulatory components of the health system and their implication for public health by drawing on epidemiological, economic, political and sociological principals. Prerequisites: Graduate standing or PHP 0310 and instructor permission.
Spr PHP2400 S01 25303 F 1:00-3:30 (C. Koller)

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 16782 Th 12:00-2:30 (To Be Arranged)

PHP 2415. Introduction to Evidence-based Medicine.
Unbiased assessments of the scientific literature by means of research synthesis methods are critical for formulating public health policy, counselling patients or prioritizing future research. We focus on the methods and uses of systematic reviews and meta-analyses and their applications in medicine and health policy. After course completion, and with some direction, students will be able to undertake a basic systematic review or meta-analysis. Enrollment limited to 15. Prerequisites: PHP 2120, 2150, or 2460; and PHP 2507/08 or 2510/11 (2508 and 2511 may be taken concurrently); and clinical background or training in basic concepts in medicine (must discuss with instructor).
Spr PHP2415 S01 25304 W 9:00-11:30 (T. Trikalinos)

The US spends more on pharmaceuticals than any other nation, reflecting higher use of medications and higher prices. US pharmaceutical firms are leaders in innovation and drug development. The purpose of this course is to provide an introduction to the study of the biopharmaceutical industry using an economic and policy analysis framework. This course is intended to broaden students’ understanding of the health policy process as it relates to pharmaceuticals. Students should have completed at least one year of biostatistics (PHP 2510 and PHP 2511) or equivalent coursework. Consent of the instructor may be sought as well.
Fall PHP2436 S01 16757 T 9:30-12:00 (T. Shireman)

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
PHP 2440. Introduction to Pharmacoepidemiology
The course will focus on substantive topics in pharmacoepidemiology, including relevant principles of pharmacology, inference from spontaneous case reports, study design considerations, premarketing pharmacoepidemiology, common data sources for pharmacoepidemiologic studies, drug utilization review, adherence, and the development, implementation, and assessment of therapeutic risk management policies. The course will also focus on issues in pharmacovigilance, including the legal and historical basis of pharmacovigilance, evaluation of individual adverse drug events, signal detection, active safety surveillance, and medication errors. A clinical background is not required. Prerequisites are PHP 2507, PHP 2508, PHP 2510, or PHP 2511, AND PHP 2120 or PHP 2150, or permission.

Fall PHP2440 S01 25305 Th 3:00-5:30 (A. Trivedi)

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 16758 M 3:00-5:30(05) (A. Gjelsvik)

PHP 2451. Exchange Scholar Program.

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 16783 F 9:30-1:00 (I. Dahabreh)

PHP 2455B. Health Services Research Methods II.
This course covers commonly used statistical (regression) models for health services research, including survival analysis; examples of the problem of missing data and strategies for addressing it; and provides a basic introduction to causal inference methods for time-varying exposures (including non-adherence). The goal is to familiarize students with important methods in applied work, so they can critically review the published literature and use the methods in their own research. The topics covered should be of interest to students in Health Services, Policy + Practice, Epidemiology, Economics, and beyond. Pre Requisites: Successful completion of PHP 2455A or instructor permission. Interested students who have not taken PHP 2455A should contact isa_dahabreh@brown.edu to make arrangements. Those with adequate background in basic health services research or epidemiologic methods and regression analysis will be able to gain from this course, even if they have not taken PHP 2455A.

Spr PHP2455B S01 25306 M 1:00-3:30 (I. Dahabreh)

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 16760 W 1:00-3:30 (T. Trikalinos)

PHP 2470. Topics in Clinical, Translational and Health Services Research.
Through a combination of mini-courses and seminars, students will explore concepts, gain knowledge and develop skills in a variety of public health areas. To receive a half credit for this course, students will be required to successfully complete 70 units. Units must be pre-determined by the course instructor and the unit instructor. Units are generally based on the number of in-person contact hours and the number of outside of class/homework hours required for a mini-course or seminar. Students must receive special permission from the instructor or be accepted to the Clinical and Translational Research Summer Institute to enroll.

Spr PHP2470 S01 25307 Th 3:30-5:00 (A. Trivedi)

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 16741 W 6:30-8:00PM (A. Gjelsvik)
Fall PHP2507 S01 16741 Th 1:00-2:20 (A. Gjelsvik)

PHP 2508. BioStatistics and Data Analysis II.
Biostatistics and Applied Data Analysis II is the second course in a year-long, two-course sequence designed to develop the skills and knowledge to use data to address public health questions. The sequence is completed in one academic year, not split across two years. The courses focus on statistical principles as well as the applied skills necessary to answer public health questions using data, including: acquisition, analysis, interpretation and presentation of results. This spring semester course focuses on regression, interpretation of results, and communication of results. Prerequisite: PHP 2507. Enrollment limited to 50. Instructor permission required.

Spr PHP2508 S01 25308 W 6:30-8:00PM (A. Gjelsvik)
Spr PHP2508 S01 25308 Th 1:00-2:20 (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. Inference for means and proportions; linear regression and analysis of variance; basics of experimental design; nonparametrics; logistic regression. Open to advanced undergraduates with permission from the instructor.

Fall PHP2510 S01 16785 TTh 9:00-10:20(02) "To Be Arranged"

Applied multivariate statistics, presenting a unified treatment of modern regression models for discrete and continuous data. Topics include multiple linear and nonlinear regression for continuous response data, analysis of variance and covariance, logistic regression, Poisson regression, and Cox regression. Prerequisite: APMA 1650 or PHP 2510. Open to advanced undergraduates with permission from the instructor.

Spr PHP2511 S01 25577 TTh 9:00-10:20(01) "To Be Arranged"

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, rate and approximate sampling distributions, point and interval estimation, and hypothesis testing. Examples of their use in modeling will also be discussed.

Fall PHP2515 S01 16991 MW 9:00-10:20 "To Be Arranged"

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
PHP 2516. Applied Longitudinal Data Analysis.
This course provides a survey of longitudinal data analysis. Topics will range from exploratory analysis, study design considerations, GLM for longitudinal data, marginal models and mixed effects. Data and examples will come from medical/pharmaceutical applications, public health and social sciences.
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. Students in this class will need an understanding of how to work with Stata. Prereq is: PHP 2511 or PHP 2514; PHP 2508 with Permission from Instructor.
Spr PHP2516 S01 25316 MW 9:00-10:20 (S. Chrysanthopoulou)

PHP 2517. Applied Multilevel Data Analysis.
This course provides a survey of multilevel data analysis. Topics will range from structure of multilevel data, basic multilevel linear models, multilevel GLM, Model testing and evaluation and missing data imputation. Data and examples will be drawn from medical, public health and social sciences. Students will be using real data throughout this course.
This course is designed for graduate and advanced undergraduate students who will be analyzing data and want to develop a practical hands on toolkit for multilevel analysis. Students in this class will need an understanding of how to work with R. Prereq is: PHP 2511 OR PHP 2514; PHP 2508 with Permission from Instructor.
Spr PHP2517 S01 25317 MW 9:00-10:20 (S. Chrysanthopoulou)

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 16786 MW 9:00-10:20 'To Be Arranged'

PHP 2530. Bayesian Statistical Methods.
Surveys the state of the art in Bayesian methods and their applications. Discussion of the fundamentals followed by more advanced topics including hierarchical models, Markov Chain Monte Carlo, and other methods for sampling from the posterior distribution, robustness, and sensitivity analysis, and approaches to model selection and diagnostics. Features nontrivial applications of Bayesian methods from diverse scientific fields, with emphasis on biomedical research. Prerequisites: APMA 1650, PHP 2510, PHP 2511, or equivalent. Open to advanced undergraduates with permission from the instructor.
Spr PHP2530 S01 25318 TTh 1:00-2:20(08) 'To Be Arranged'

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 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.
Fall PHP2550 S01 16787 MW 10:30-11:50 'To Be Arranged'

PHP 2560. Statistical Programming with R.
Statistical computing is an essential part of analysis. Statisticians need not only be able to run existing computer software but understand how that software functions. Students will learn fundamental concepts – Data Management, Data types, Data cleaning and manipulation, databases, graphics, functions, loops, simulation and Markov Chain Monte Carlo through working with various statistical analysis. Students will learn to write code in an organized fashion with comments. This course will be taught using both R and Julia languages in a flipped format.
Fall PHP2560 S01 16788 W 1:00-4:00 'To Be Arranged'

PHP 2561. 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 biomolecular 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 PHP2561 S01 25576 TTh 10:30-11:50(09) 'To Be Arranged'

PHP 2580. Statistical Inference II.
This sequence of two courses provides a comprehensive introduction to the theory of modern inference. PHP 2580 covers such topics as non-parametric statistics, quasi-likelihood, resampling techniques, statistical learning, and methods for high-dimensional Bioinformatics data. Prerequisite: PHP 2520. Open to advanced undergraduates with permission from the instructor.
Spr PHP2580 S01 25319 MW 10:30-11:50 'To Be Arranged'

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.
Note: The course will cover fundamental and advanced topics in linear models, and concepts related to the generalized linear models will not be covered during the course.
Fall PHP2601 S01 16789 T 1:00-3:30 'To Be Arranged'

PHP 2602. Analysis of Lifetime Data.
Comprehensive overview of methods for inference from censored event time data, with emphasis on nonparametric and semiparametric approaches. Topics include nonparametric hazard estimation, semiparametric proportional hazards models, frailty models, multiple event processes, with application to biomedical and public health data. Computational approaches using statistical software are emphasized. Prerequisites: PHP 2510 and 2511, or equivalent. Open to advanced undergraduates with permission from the instructor.
Spr PHP2602 S01 25488 TTh 2:30-3:50(11) 'To Be Arranged'

This course will focus on the theory and application of generalized linear models (GLM), a unified statistical framework for regression analyses. Specifically, we will focus on using GLMs to model the categorical outcomes. The GLM for categorical outcomes include logistic regression, proportional odds model, and Poisson regression. Maximum likelihood estimation and inference will be introduced in the GLM context. The students are expected to have knowledge of probability and inference (at the level of APMA1650, APMA1660, or PHP2520), knowledge of matrix algebra (at the level of MATH0520), knowledge of regression analysis (at the level of PHP2511) and knowledge of R.
Spr PHP2605 S01 25320 MW 1:00-2:20 'To Be Arranged'

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.
Fall PHP2610 S01 16790 TTh 9:00-10:20(02) 'To Be Arranged'

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
PHP 2620. Statistical Methods in Bioinformatics, I.
Introduction to statistical concepts and methods used in selected areas of bioinformatics. Organized in three modules, covering statistical methodology for: (a) analysis of microarray data, with emphasis on application in gene expression experiments, (b) proteomics studies, (c) analysis of biological sequences. Brief review and succinct discussion of biological subject matter will be provided for each area. Available software will be introduced. Intro level statistics (PHP 2507/2508 or PHP 2510/2511) recommended. Other students should contact instructor. Intro to software R and BioConductor tools provided in lab. Open to advanced undergraduates with permission from the instructor.
Spr PHP2620 S01 25321 TTh 9:00-10:20(01) "To Be Arranged"

PHP 2650. Statistical Learning and Big Data.
This course introduces modern statistical tools to analyze big data, including three interconnected components: computing tools, statistical machine learning, and scalable algorithms. It introduces the principal techniques: extract and organize data from complex sources, explore patterns, frame statistical problems, build computational algorithms, and disseminate reproducible research. Topics include web data extraction, database management, exploratory data analysis, dimension reduction, convex optimization algorithms, high-dimensional linear/nonlinear models, tree/ensemble methods, and predictive modeling. These techniques are illustrated using big data examples from many scientific disciplines. This course is open to graduate students and advanced undergraduate students pursuing degrees in science, technology, engineering, or mathematics. Students should have taken: either one course from: PHP 2510, PHP 2511, PHP 2550, APMA 2610; OR one course from: APMA 1690, APMA 1720, APMA 1930B, CSCI 0150, CSCI 0170; AND one course from: MATH 0520, MATH 0540. Students may ask permissions from the instructor for waiving this requirement. Students are also required to have some experience with any scripting language.
Spr PHP2650 S01 25322 TTh 10:30-11:50(09) "To Be Arranged"

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.
Fall PHP2710 S01 16791 Arranged (S. McGarvey)

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.
Spr PHP2720 S01 25323 T 10:00-12:30 (J. Pellowski)

PHP 2730. Including the Excluded: Global Health Ethics.
This course explores the ethics of global public health engagement. Global health implementation is fraught with ethical conundrums. These ethical conundrums include the process of generating rigorous evidence, championing health as a human right, engaging global partners in meaningful collaborations, and implementing complex programs in low-resource settings. These ethical challenges are driven by North-South inequities and by differences in socioeconomic backgrounds, culture, language, and other intersectional identities. This course introduces scholars to global health ethics as a framework for tackling health disparities, grappling in a scholarly and practical way with the complex fabric of global health research, policy, and practice.
Fall PHP2730 S01 16761 F 9:00-11:30 (C. Kuo)

This course prepares students for constructive engagement in cross-cultural research. The course aims to familiarize students with global funding priorities and research approaches, and to ask questions about meaningful cross-cultural engagement. Part I (Weeks 1-5) covers global health research priorities and writing a small grant proposal. Part II (Weeks 6-12) focuses on acquiring skills and knowledge to plan and implement a global health project, including strategies for community and stakeholder engagement, the challenges and opportunities of cross-cultural research, and tools for project implementation. This course is a research fieldwork preparation seminar intended to prepare students for global field-based research.
Spr PHP2740 S01 25324 M 2:30-5:00 (A. Harrison)

PHP 2950. Doctoral Seminar in Public Health.
The purpose of this seminar is to facilitate discussions of current scientific literature in epidemiology, biostatistics, health services, behavioral and health sciences, and public health in general. The main goal is to expose students to current methodological issues and controversies, in an effort to integrate knowledge across disciplines. This seminar is only open to doctoral students in Epidemiology, Behavioral and Social Health Sciences, Biostatistics and Health Services Research.
Fall PHP2950 S01 16834 M 12:00-12:50 "To Be Arranged"
Fall PHP2950 S02 16836 F 1:00-1:50 "To Be Arranged"
Fall PHP2950 S03 16837 T 12:00-12:50 "To Be Arranged"
Fall PHP2950 S04 16838 M 12:00-12:50 "To Be Arranged"
Spr PHP2950 S01 25330 T 12:00-12:50 "To Be Arranged"
Spr PHP2950 S02 25331 M 12:00-12:50 "To Be Arranged"
Spr PHP2950 S03 25332 F 1:00-1:50 "To Be Arranged"
Spr PHP2950 S04 25333 M 12:00-12:50 "To Be Arranged"

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.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
### PHP 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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### COST 0037. Sensing the Sacred: Sensory Culture in South Asian Religions
This course explores South Asian religions through the body, the senses, and aesthetics. Drawing on Hindu, Buddhist, and Jain traditions, and concentrating on embodied practices such as meditation, chanting, eating, sex, asceticism, ritual, possession, and performance, we will examine experiences of the sacred in India, past and present. How has sensory culture shaped lives, practices, and doctrines? What place do the senses have in South Asian traditions? Drawing on premodern law codes, erotic handbooks, and medical treatises; and integrating new media from ethnographic films to graphic novels, we will plunge into to the rich sense-worlds of religions in South Asia.

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### COST 1000. Introduction to Contemplative Studies
Introduction to the new field of Contemplative Studies focusing on identifying methods human beings have found, across cultures and across time, to concentrate, broaden and deepen conscious awareness. We will study what 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.

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### COST 1014. 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 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.

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### COST 0525. The History and Practice of Yoga in India and Beyond
From its roots in premodern India to its current popularity worldwide, yoga has a rich and complex history. As a practice of the mind, body, and spirit, yoga has taken many forms—meditation, chanting, breath control, postures—in order to achieve a range of goals: liberation from rebirth, supernatural powers, strength, pleasure, peace, wellness. As its reputation and commodification have increased, yoga has attracted deep interest, debate, and even controversy. In this course we will study yoga from its earliest texts to its status in the modern world, addressing its historical, religious, social, and political ramifications in many different contexts.

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### COST 0526. This Whole World is OM: Mantras in Indian Religions
A mantra is a syllable or formula used in ritual and meditation. Mantras are central to Indian religions—not only Hinduism, but also Jainism, Buddhism, Sufism, and Sikhism. Some mantras are made up of words and language—usually in Sanskrit—while others are sound fragments with no semantic meaning. The sacred syllable OM, now a global symbol of Eastern spirituality, exemplifies the power and authority of mantra. What are mantras? What do they accomplish? How do they shape identities, beliefs, and practices? Engaging with sacred utterance in various media, this course explores the world of mantras in India and beyond.

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### COST 0555. Zen: An Introduction
"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 important Zen teachers: Hui-neng and Linji in China, Dōgen, Bankei and Hakuin in Japan. We will also explore the essential technique of 6kan meditation and the practice of "just sitting."

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### COST 1910. Individual Study Project – Semester 1
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.

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### COST 1980. Thesis Preparation
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.

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#### RELS 0015. Sacred Stories
What do stories do? How do stories underlie who we are, where we are, or why our world is as it is? Ancient religious stories have been formative for western culture in all of its expressions, lasting into our modern, secularized times. Sacred stories underlie how we think about life, death, suffering, or joy. How do they work? This course will examine narrativity - the telling, sharing, and contesting of stories - as a means for constructing and maintaining religious identity, community, and world view in western history. Jewish, Christian, and Muslim materials. Lecture and discussion.

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For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
RELS 0037. Sensing the Sacred: Sensory Culture in South Asian Religions.
This course explores South Asian religions through the body, the senses, and aesthetics. Drawing on Hindu, Buddhist, and Jain traditions, and concentrating on embodied practices such as meditation, chanting, eating, sex, asceticism, ritual, possession, and performance, we will examine experiences of the sacred in India, past and present. How has sensory culture shaped lives, practices, and doctrines? What place do the senses have in South Asian traditions? Drawing on premodern law codes, erotic handbooks, and medical treatises; and integrating new media from ethnographic films to graphic novels, we will plunge into the rich sense-worlds of religions in South Asia.
Spr RELS0037 S01 24989 TTh 1-2:20(08) (F. Moore-Gerety)

RELS 0045. Buddhism and Death.
Death is universal but seldom discussed in contemporary culture. In this class we will address how the varieties of Buddhist religion represent and understand dying, death, and the afterlife. Using images, films, and texts, we will ask, How should we die? How does death influence the living? Is there an afterlife? What should be done with dead bodies? The class will move between theories and practices, and past and current events. Coming to terms with these diverse materials may reveal to us some of our own assumptions about death, dying, and the afterlife.
Spr RELS0045 S01 24990 TTh 9-10:20(01) (J. Protass)

RELS 0050. Love: The Concept and Practice.
A study of love in classical and modern texts and in film that provides a window into a host of religious, philosophical, and ethical issues. Topics include the potential conflict between divine and human love, between transcendental and earthly love, and the nature of friendship, romance, marriage, and love at the crossroads. Although the scope is love in the West, the Kamasutra and other texts furnish a comparative component. All students must register for one conference in addition to the primary section.
Fall RELS0050 S01 16339 TTh 1-2:20(08) (M. Cladis)

RELS 0058. Christianity and Culture.
The aim of this introductory level lecture course is to interrogate the relationship between culture and religion. The foundation for our study will be exemplary works by major cultural critics and theologians since the early 19th century. Our focus will be on forms of cultural criticism put forward by interdisciplinary thinkers that attempted to gain a better grasp of both modern social crises and sources of communal joy. The course shall rehearse debates in cultural studies, theology, postmodernism, and politics.
Fall RELS0058 S01 16340 TTh 10:30-11:50(13) (A. Willis)

RELS 0060E. Angels and Demons Past and Present (JUDS 0064).
Interested students must register for JUDS 0064.
Fall RELS0060E S01 17218 Arranged 'To Be Arranged'

RELS 0060F. Ancient Israelite and Jewish Narrative and Artistic Image (JUDS 0065).
Interested students must register for JUDS 0065.
Fall RELS0060F S01 17219 Arranged 'To Be Arranged'

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 cultures, 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 RELS0085B S01 24991 TTh 1-2:20(08) (A. Willis)

RELS 0090F. Friendship in the Ancient World.
How have ancient societies understood friendship, and how do ancient ideas about friendship differ from or resemble those of contemporary Westerners? This seminar, a comparative investigation of the ways in which friendship has been represented in the Hebrew Bible, Mesopotamian literature, and Greco-Roman texts, will address these and other questions through study of materials such as the Epic of Gilgamesh, the Iliad, the Book of Ruth, 1 and 2 Samuel (on Jonathan and David), the Wisdom of Ben Sirah (Sirach), and Aristotle’s Nicomachean Ethics. Enrollment limited to 20 first year students.
Spr RELS0090F S01 24992 M 3:00-5:30(13) (S. Olyan)

RELS 0090K. Christmas in America.
This course explores how Christmas became a religious, consumer, and social extravaganza. Every year, many Americans devote several months to preparing for and recovering from Christmas. Most participate as Christians, but others participate despite other religious identities. Yet Christmas has not always loomed so large. Through encounters with such phenomena as sacred stories, consumer practices, and legal controversies, this course invites students to ask how and why Christmas became an important event. By the end of the course, students not only will recognize how religion and culture take shape together but also will appreciate how popular practices develop.
Fall RELS0090K S01 16342 Th 4-6:30(04) (D. Vaca)

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.
Fall RELS0140 S01 16344 T 4-6:30(09) (F. Moore-Gerety)

RELS 0290H. Defense Against the Dark Arts in the Ancient World.
Alongside their Jewish and Pagan neighbors, ancient Christians sought to control and defend themselves against unseen forces teeming around them. They bound powerful angels to their will and harnessed the spirits of the recently deceased to activate their spells. Though none found the Elixir of Life, they left behind spells, recipes, and talismans as evidence of their quest to master spirits both hostile and sympathetic. This course will interrogate Christian and non-Christian conceptions of magic, its religious, social, and political ramifications in many different contexts.
Fall RELS0290H S01 16345 MWF 10-12:50(14) (J. Han)

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 24993 M 3:00-5:30(13) (S. Harvey)

RELS 0525. The History and Practice of Yoga in India and Beyond.
Alongside its roots in premodern India to its current popularity worldwide, yoga has a rich a complex history. As a practice of the mind, body, and spirit, yoga has taken many forms—meditation, chanting, breath control, postures—in order to achieve a range of goals: liberation from rebirth, supernatural powers, strength, pleasure, peace, wellness. As its reputation and commodification have increased, yoga has attracted deep interest, debate, and even controversy. In this course we will study yoga from its earliest texts to its status in the modern world, addressing its historical, religious, social, and political ramifications in many different contexts.
Spr RELS0525 S01 24995 T 4-6:30(16) (F. Moore-Gerety)

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
RELS 0526. This Whole World is OM: Mantras in Indian Religions.
A mantra is a syllable or formula used in ritual and meditation. Mantras are central to Indian religions—not only Hinduism, but also Jainism, Buddhism, Sufism, and Sikhism. Some mantras are made up of words and language—usually in Sanskrit—while others are sound fragments with no semantic meaning. The sacred syllable OM, now a global symbol of Eastern spirituality, exemplifies the power and authority of mantra. What are mantras? What do they accomplish? How do they shape identities, beliefs, and practices? Engaging with sacred utterance in various media, this course explores the world of mantras in India and beyond. Fall 2022

“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 return east to China. 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 koan meditation and the practice of “just sitting.” Fall 2023

RELS 0700C. Race, Religion, and the Secular (JUDS 0603).
Interested students must register for JUDS 0603. Fall 2023

This course examines the ideal of religious freedom, which often is seen as a cornerstone of American society. Interrogating that view, students explore the idea and practice of religious freedom in the past and present, paying close attention to its limitations, contradictions, and ironies. Although the course draws especially upon studies of religion, law, and politics in the United States, students also consider forms of religion and secularism from around the world. Reading-intensive and discussion-driven, this course has no prerequisites. Spr 2024

Intensive introduction to classical and contemporary theories of religion and the principal methods for the study of religion. Junior seminar for religious studies majors or those majoring in the humanities, interested in religious studies. Prerequisites: consent of instructor. Fall 2023

RELS 1050H. Problems in Israelite History (JUDS 1635).
Interested students must register for JUDS 1635. Fall 2023

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. Fall 2023

RELS 1380C. 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 2023

RELS 1390A. Religion and Critical Theory.
This course will give a critical overview of the Frankfurt School, particularly its contributions to the study of religion. Tracking the insights and blindspots of Adorno, Horkheimer, Habermas and Benjamin (among others), we will consider how technological developments in the ‘culture-industry’, late-modern capitalist forms of socialization, and post-Enlightenment philosophical claims regarding religion and theology bear on the ways we talk about autonomy, power and authority. Covering topics such as negative theology, the non-secular critique of religion, communicative praxis, and divine violence, our inquiry will emphasize the social features of theology, the aesthetic content of belief, and the communal aspects of religion. Fall 2023

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 2024

RELS 1440A. Themes in Japanese Buddhism.
An exploration of critical themes and debates in the study of Japanese Buddhism. Participants become conversant with the key features of medieval Japanese thought as well as the strengths and weaknesses of established conceptual models in Japanese Buddhist studies. Readings include primary texts in English translation and modern secondary interpretations. Recommended: a course in Buddhism or East Asian religions. Fall 2023

RELS 1610. Sacred Sites: Law, Politics, Religion.
Sacred sites have long been flashpoints for inter-communal conflict the world over, as well as posing challenges to sovereign State authority. Such sites range from natural landscapes to architectural masterpieces. They often come to symbolize the perennial clash between the religious and the secular, the sacred and the political, tradition and modernity. We will discuss a diverse array of specific disputes and ask whether one may even speak of “sacred sites” cross-culturally. Can legal frameworks embrace different notions of the sacred? We will also examine the historical contexts that provoke such disputes, particularly the aftermath of colonialism. Spr 2024

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. Fall 2024

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.

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.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
RELS 2100B. Exegesis at Qumran.
Focuses on Hebrew exegetical texts such as the Temple Scroll, MMT, pHab, 4QJub, CD. Intended for doctoral students and others with sufficient knowledge of Hebrew.
Spr RELS2100B S01 25412 Arranged (S. Olyan)

RELS 2101. The Court Narrative in Ancient Israel.
A number of ancient Israelite and Jewish narratives are set in the court of the foreign king: the story of Joseph in Genesis 37-50, Esther, Daniel 1-6 (along with the additions from the Apocrypha: Susanna and Bel and the Dragon), and the Prayer of Nabonidus from Qumran. These entertaining narratives are often set off from the more strictly historical tradition, and seem to have been part of a resilient and international genre of popular stories. In this course we will read and analyze these narratives in their original Hebrew, Aramaic, and Greek.
Fall RELS2101 S01 16569 M 3:00-5:30(05) (L. Wills)

Is America fundamentally defined by Romanticism? We will explore the sustained legacies of Romanticism in America, giving special attention to the interrelated topics of religion, democracy, and the environment, by reading such authors as Emerson, Margaret Fuller, Thoreau, Whitman, and Fredrick Douglas; William James, George Santayana, and W.E.B. Du Bois; and Terry-Tempest Williams, Barry Lopez, and Wendell Berry.
Spr RELS2110B S01 25012 Th 2:30-5:00 (M. Cladis)

RELS 2110C. Suspicion and Its Others.
From the hermeneutics of suspicion to post-critique, a range of thinkers and theories have positioned suspicion as a central critical disposition of the modern age. In this collaborative seminar we will explore the concept and practice of suspicion both in relation to the classic objects over against which it emerged—morality, religion, and tradition—and through the lens of other modes of engagement more recently proposed, including charity, reconstruction, attunement, quiet, resonance, and reparative practices of reading. Readings will be drawn from philosophy, critical theory, race and ethnicity studies, gender and sexuality studies, and literary theory and criticism.
Fall RELS2110C S01 16357 W 3:00-5:30(17) (T. Lewis)

RELS 2380C. Buddhist Sutra.
This course is about Buddhist scripture, and this year will focus on foundational Mahāyāna sūtras. Readings include selections from recently excavated manuscripts of the earliest known texts, The Buddhist Literature of Ancient Gandhara; the classical expression of emptiness in The Diamond Sūtra; and a likely apocryphal Chinese scripture, The Awakening of Faith in the Mahāyāna, source of an influential vision of intrinsic Buddhahood. Additional topics to be announced. Most readings available in English translation. Ability to read premmodern Buddhist Chinese required for full participation. Students with previous background in Buddhist studies will be more able to fulfill course expectations.
Fall RELS2380C S01 16965 M 3:00-5:30(05) (J. Protass)

RELS 2400K. New Directions in the Study of Islamic Worlds.
This course is a pro-seminar in new methodological interventions for the study of religion, society and culture in the Islamic world, broadly speaking. We will consider methodological and theoretical approaches from multiple fields, including but not limited to religious studies, anthropology, Near Eastern and South Asian studies, and will design some of our investigations around the research specialties of graduate students in the seminar.
Fall RELS2400K S01 16923 W 3:00-5:30(17) (N. Khalek)

RELS 2450. Exchange Scholar Program.
Fall RELS2450 S01 15528 Arranged "To Be Arranged"

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 15529 Arranged "To Be Arranged" Spr RELS2890 S01 24318 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 15530 Arranged "To Be Arranged" Spr RELS2990 S01 24319 Arranged "To Be Arranged"

Center for the Study of the Early Modern World

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 number 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.

South Asian Studies

SAST 0037. Sensing the Sacred: Sensory Culture in South Asian Religions.
This course explores South Asian religions through the body, the senses, and aesthetics. Drawing on Hindu, Buddhist, and Jain traditions, and concentrating on embodied practices such as meditation, chanting, eating, sex, asceticism, ritual, possession, and performance, we will examine experiences of the sacred in India, past and present. How has sensory culture shaped lives, practices, and doctrines? What place do the senses have in South Asian traditions? Drawing on premmodern law codes, erotic handbooks, and medical treatises; and integrating new media from ethnographic films to graphic novels, we will plunge into the rich sense-worlds of religions in South Asia.
Spr SAST0037 S01 25795 Arranged (F. Moore-Gerety)

SAST 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 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.
Fall SAST0140 S01 17195 Arranged (F. Moore-Gerety)

SAST 0525. The History and Practice of Yoga in India and Beyond.
From its roots in premmodern India to its current popularity worldwide, yoga has a rich a complex history. As a practice of the mind, body, and spirit, yoga has taken many forms—meditation, chanting, breath control, postures—in order to achieve a range of goals: liberation from rebirth, supernatural powers, strength, pleasure, peace, wellness. As its reputation and commodification have increased, yoga has attracted deep interest, debate, and even controversy. In this course we will study yoga from its earliest texts to its status in the modern world, addressing its historical, religious, social, and political ramifications in many different contexts.
Spr SAST0525 S01 25793 Arranged (F. Moore-Gerety)

SAST 0526. This Whole World is OM: Mantras in Indian Religions.
A mantra is a syllable or formula used in ritual and meditation. Mantras are central to Indian religions—not only Hinduism, but also Jainism, Buddhism, Sufism, and Sikhism. Some mantras are made up of words and language—usually in Sanskrit—while others are sound fragments with no semantic meaning. The sacred syllable OM, now a global symbol of Eastern spirituality, exemplifies the power and authority of mantra. What are mantras? What do they accomplish? How do they shape identities, beliefs, and practices? Engaging with sacred utterance in various media, this course explores the world of mantras in India and beyond.
Fall SAST0526 S01 17196 Arranged (F. Moore-Gerety)
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 1000. Introduction to Science 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 25150 TTh 10:30-11:50(09) (D. Weinstein)

STS 1700P. Neuroethics.
In this course, we will examine ethical, social, and philosophical issues raised by developments in the neurosciences. Topics will include: neurodevelopment and the emergence of persons; the impact of child abuse on brain development; aging, brain disease, and mental decline; life extension research; strategies and technologies for enhancement of human traits; "mind-reading" technologies; agency, autonomy, and excuse from responsibility; error and bias in memory; mind control; neuroscientific and evolutionary models of religious belief and moral judgement. Enrollment limited to 20. Instructor permission required.
Spr STS1700P S01 25263 T 4:00-6:30(16) (J. Poland)

STS 1900. Senior Seminar in Science 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 16880 Th 4:00-6:30(04) (J. Poland)

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 18.
Fall CZCH0100 S01 16470 Arranged (M. Fidler)

CZCH 0320A. Czech Animation: Cross-cultural Dialogs.
Czech animation has a long tradition and international reputation. Jiří Trnka beat Walt Disney at the post-war Cannes Film Festival. Karel Zeman is a pioneer in creating fantasy films with animation. Surrealist films by Jan Svankmajer continue to shock the audience. Younger animators such as Barta, Klimt, and Pospíšilová have been developing new modes of expression after the fall of socialism. This course explores a variety of Czech animated films from the 1960’s to the 21st century and its cross-cultural dialog, especially with the Japanese anime. Readings in English and films with English subtitles.
Fall CZCH0320AS01 16471 Th 4:00-6:30(04) (M. Fidler)

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 16700 MWF 10:00-10:50(14) 'To Be Arranged'
Fall RUSS0100 S01 16700 TTh 12:00-12:50(14) 'To Be Arranged'
Fall RUSS0100 S02 16701 MWF 11:00-11:50(16) 'To Be Arranged'
Fall RUSS0100 S02 16701 TTh 12:00-12:50(16) 'To Be Arranged'
Fall RUSS0100 S03 16702 MWF 12:00-12:50(15) 'To Be Arranged'
Fall RUSS0100 S03 16702 TTh 12:00-12:50(15) 'To Be Arranged'

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 16724 MWF 10:00-10:50(14) 'To Be Arranged'
Fall RUSS0300 S01 16724 TTh 12:00-12:50(14) 'To Be Arranged'
Fall RUSS0300 S02 16725 MWF 11:00-11:50(16) 'To Be Arranged'
Fall RUSS0300 S02 16725 TTh 12:00-12:50(16) 'To Be Arranged'

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
RUSS 0320C. Demons and Angels in Russian Literature.
The literary images of fallen angels, as well as various poetic demonologies in Russian literature extend from the medieval apocrypha, up to famous works of the twentieth-century literature, like, for example, Bulgakov's Master and Margarita or Dostoevsky's Demons. Although, the Russian literary angels are in many respects related to their Western counterparts, the apocalyptic character of Russian spiritual culture makes them in many respects unique. Examining these images, the course addresses the important questions concerning the human condition in general. Angels as one critic said, "represent something that was ours and that we have the potential to become again"; their essence is otherness. Consequently, their literary representations explore the possibilities of human existence as well as its central paradigms like, love, rebirth, mortality, or 'fallenness.' The course will analyze the images of angels and fallen angels (devils) in the works of the nineteenth and the twentieth-century Russian prose, visual art, and film - from romanticism to 'postmodernism' - in the context of the world literature and culture. Authors to be studied: Byron, Lermontov, Balzac, Dostoevski, Sologub, Bulgakov, Nabokov, Erofeev. We will also discuss films by Tarkovsky and Wenders, Russian icons, and paintings by Vrubel. In English. Enrollment limited to 19 first year students.
Fall RUSS320CS01 16473 W 3:00-5:30(17) (M. Oklot)

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 16726 MWF 1:00-1:50(06) 'To Be Arranged'

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 0600 or written permission. May be repeated once with permission from the instructor. Enrollment limited to 18.
Fall RUSS1110 S01 16727 MWF 12:00-12:50(15) 'To Be Arranged'

RUSS 1220. Nationalism and Nationalities.
This seminar course explores the meaning and significance of nationalism and national identity in modern culture and society, starting with the emergence of nation-states, up to the recent rise of nationalist and identitarian movements throughout the globe. We will study the main theories of nationalism, as well as some of the art and literary movements that this ideology inspired. By developing an open discussion about different incarnations of nationalism as an ideology and a social practice, we will retrace a cultural history of this concept, and shed light on its crucial role and impact on contemporary political processes.
Fall RUSS1220 S01 16728 MWF 2:00-2:50(07) (F. Fenghi)

RUSS 1820. Dostoevsky.
An examination of Dostoevsky's major texts tracing his development as an artist, thinker, and religious visionary. The texts will be considered against the background of literary and cultural history of Dostoevsky's period. No knowledge of Russian required.
Fall RUSS1820 S01 16474 TTh 9:00-10:20(02) (V. Golstein)

Independent research project on topics related to Russian culture. 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). 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.
Fall RUSS2970 S01 15531 'To Be Arranged'
Spr RUSS2970 S01 24320 'To Be Arranged'

RUSS 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 RUSS2970 S01 15531 'To Be Arranged'
Spr RUSS2970 S01 24320 'To Be Arranged'

RUSS 2980. Advanced Reading and Research.
Only for graduate students. Independent research project on topics related to Russian culture. 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.
Fall RUSS2990 S01 15536 'To Be Arranged'
Spr RUSS2990 S01 24324 'To Be Arranged'

Slavic

Independent research project on topics in Slavic Studies. 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). 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.

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/ČZCH 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.

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 SLAV2970 S01 15535 'To Be Arranged'
Spr SLAV2970 S01 24323 'To Be Arranged'

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
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 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 0020. Perspectives on Social Interaction: An Introduction to Social Psychology.
An introduction to the discipline of sociology examining the individual in society. Explores the social development of the person, the development of interpersonal relationships, and the problems of integrating the individual and social system. For each area, the personal and structural factors that bear upon the issue are investigated. The objective is to deepen understanding of the behavior of people in a social context.

Emphasis on understanding the interrelations among economic, political, and cultural aspects of change in developing countries. The experience of currently developing nations is contrasted to that of nations which industrialized in the 19th century. Compares the different development strategies which have been adopted by currently developing nations and their consequences for social change.

SOC 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 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.

Why do we follow social rules and conventions? And how is social change – that is, the making of new rules and expectations – possible? When we respond to rules, do we act as free-willing individuals or do we follow social structures we have no control over? These questions have motivated generations of sociologists, but many of the arguments have been already developed by the four "forefathers" of sociology: Karl Marx, Max Weber, Emile Durkheim, and Georg Simmel. Looking at the transformation around them – the rise of capitalism, the modern nation-state, rational bureaucracy, the metropolitan, the decline of religion, 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.

SOC 1020. Methods of Social Research.
This course introduces students to the frameworks and methods of conducting sociological research – from both a qualitative and quantitative perspective. The aim is that students develop the skills to ask and answer interesting and important questions about sociological phenomenon. The focus is on designing and executing research, from identifying an interesting question and reviewing the relevant literature, to collecting and analyzing data, to drawing reliable inferences and presenting meaningful results. There is a heavy focus on reading and discussing academic research and working in research teams. By the end of the semester students will complete their own research projects.

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 1115. The Enlightened Entrepreneur: Changemakers, Inspired Protagonists and Unreasonable People.
This course explores the practices of enlightened entrepreneurs, with the intention of moving beyond the limiting social/commercial dichotomy to develop a more useful paradigm for understanding entrepreneurs whose ventures lead to positive developments in society and the environment. You will be exploring the success stories and cautionary tales of entrepreneurs to develop an understanding of how ventures can have an impact on their fields of engagement as well as their fields of influence. Afterwards you will develop an assessment tool for understanding the spectrum of entrepreneurs whose ventures lead to positive developments in society and the environment.

This course brings design thinking into conversation with qualitative research methods, examining the elements of a comprehensive perspective of context. It introduces students to design research methods, ethnographic research methods, and how they work together. Students will learn how to use these methods to identify and engage in “deep hanging out” with the problem, gap or inefficiency in question. They will then move on to patient contextualized opportunity identification for meaningful innovation. By the end of the course, students will have developed a process for effective, through innovation context analysis. Relevant for designers of products, services, organizations, and experience.

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.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
SOC 1270. Race, Class, and Ethnicity in the Modern World.
Applies sociological analysis to understand present and historical cases of ethnic and race relations and conflicts. Topics addressed are the social construction of race and ethnicity; historical processes of racialization; ethnic conflict and the nation state; and the linkages between race, class, and social mobility. Focuses on racial and ethnic relations in the U.S., but also has a strong international comparative component.
Fall SOC1270 S01 17055 MWF 2:00-2:50(07) (J. Itzigsohn)

SOC 1281. Migration in the Americas.
Examines historical trends and determinants of migration from Latin America to the United States. Each stage of the migration process is examined: the decision to migrate, getting across international borders, settlement and integration in destinations, and return to places of origin. The course integrates theories and empirical studies of international migration with hands-on analysis of survey data from the Mexican and Latin American Migration Projects, the two largest survey databases for studying migration in the Americas. Students will learn how to formulate and operationalize research hypotheses, read, process, and analyze survey data files, and present and interpret research results.
Fall SOC1281 S01 17048 MWF 9:00-9:50(01) (D. Lindstrom)

Macro-Organizational Theory focuses on the organization and its social/economic environment. This class will explore various definitions of the organization’s environment, and the many types of macro-level organizational structures in which sets of organizations interact, function, compete, and cooperate. Important questions to be asked include the following:
- What is an organizational environment and how do organizations “deal” with what is outside of their boundaries?
- How are the boundaries of organizations defined/recognized/function?
- How do environments influence organizational strategy and performance?
- What are the major theories for assessing macro-level organizational phenomena?
- What are the many ways in which organizations relate to other organizations?
Fall SOC1315 S01 17058 TTh 1:00-2:20(08) (M. Suchman)

SOC 1330. Remaking the City.
Cities are being reshaped by immigration, economic restructuring, and other forces. This course reviews these changes from several perspectives, including the patterns and causes of change, the role of politics and public policy, and how different groups of people (by class, race, and national origin) manage under the new conditions. Readings will emphasize historical and cross-national comparisons.
Spr SOC1330 S01 25736 TTh 1:00-2:20(08) (J. Logan)

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 21 juniors and seniors.
Fall SOC1340 S01 17054 MWF 12:00-12:50(15) (K. Mwenda)

SOC 1420. Violence and Society.
The course focuses on the personal and structural sources and consequences of violence in the U.S. We investigate three levels of violence: interpersonal; institutional, wherein social institutions do violence to individuals or groups; and structural, examining the structures of society that tolerate or promote violence, both within the society and toward other societies. Next, we examine the culture of violence that permeates our society, including the mass media and violence. WE focus on specific forms of violence in our society, including gang violence, bullying, violence within schools, sex trafficking, war, religious violence, and terrorism.
Fall SOC1420 S01 17052 MWF 11:00-11:50(16) (G. Elliott)

SOC 1870E. Alternatives to Violence.
We examine nonviolence as a method for resolving serious social conflict. We consider psychological and sociological approaches to understanding why people choose violence, as a precursor to studying theories of nonviolence. We investigate practitioners of nonviolence throughout history and analyze nonviolence as a response to such issues as the death penalty, war, and terrorism.
Spr SOC1870E S01 25626 W 3:00-5:30(10) (G. Elliott)

SOC 1870K. Demographics and Development.
Assesses the social and economic determinants and consequences of changes in fertility, mortality, and migration and their impact on the size, distribution, and composition of population in developing societies. Implications of the evolving population structure for planning and policy. Enrollment limited to 20.
Spr SOC1870K S01 25625 W 3:00-5:30(10) (M. White)

SOC 1871R. Knowledge Networks and Global Transformation.
How do refined knowledge and the social relations that organize and distribute it influence changes in the institutions, inequalities and cultural systems and practices that define particular world regions and global formations? And how do global transformations influence the trajectories of knowledge production themselves? We will examine particular knowledge-identified agents, including universities, research institutes, think tanks, and professional associations, to consider why they approach global transformations in the way that they do. We will consider how particular kinds of global transformations, from the end of the cold war and the transformation of information/communication technology to the last financial crisis, affect knowledge production itself. By exploring intersections between global complexity and reflexivity in this fashion, we hope to increase our own capacities for seeing the world not only as it is, but how knowledge might be used in making better alternatives for the future. Enrollment limited to 20 juniors and seniors.
Fall SOC1871R S01 17072 W 3:00-5:30(17) (M. Kennedy)

SOC 1871X. Comparative Urban Political Economy.
For the first time, most people across the globe live in cities. Inequalities within both nations and cities are increasingly similar across national boundaries. This course ask how the politics of formal and informal institutions in cities produce and change inequalities of shelter, work, race, and other social identities, across urban space. We analyze cases from across the globe, along with a range of social science methods and theoretical perspectives.
Fall SOC1871X S01 17070 M 3:00-5:30(05) (J. Logan)

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.
Fall SOC1950 S01 17053 MWF 11:00-11:50(16) (C. Spearin)

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 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.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
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 SO2C2010 S01 17073 T 9:00-12:00 (L. Vanwey)

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 25639 W 1:00-4:00 (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. Prerequisites include Sociology 2010 or equivalent.
Fall SOC2030 S01 17083 Th 1:00-4:00 (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 17078 F 9:00-12:00 (J. Itzigsohn)

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 25643 Th 9:00-12:00 (P. Henry)

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.
Fall SOC2080 S01 17074 Th 9:00-12:00 (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.
Spr SOC2210 S01 25662 W 9:00-12:00 (N. Gonzalez Van Cleve)

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.
Spr SOC2230 S01 25640 M 9:00-12:00 (Z. Qian)

SOC 2260D. Race, Ethnicity, and Nation: Boundaries, Identities, Inequalities.
This 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 SOC226DD S01 17080 T 1:00-4:00 (L. Lopez Sanders)

This course investigates Du Bois’ empirical and theoretical sociological work and its implications for contemporary sociology. W.E.B Du Bois is recognized as a pioneer of sociology of race, but his work is seldom explored. The first part of this course we discuss in-depth Du Bois work to construct the bases for a Du Boisian sociology. The second part we will read contemporary theories of race through the lens of Du Bois’ work. The final section we will read contemporary empirical works in the field of race and ethnicity, reflect how we would conduct them differently from a Du Boisian perspective.
Spr SOC226GG S01 25645 F 1:00-4:00 (J. Itzigsohn)

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.
Fall SOC2430 S01 17082 W 1:00-4:00 (M. Suchman)

SOC 2450. Exchange Scholar Program.
Fall SOC2450 S01 15537 Arranged 'To Be Arranged'
Spr SOC2450 S01 24325 Arranged 'To Be Arranged'

SOC 2460. Sociology Paper Writing Seminar.
This is a special seminar for graduate students in Sociology on the art of writing research papers for publication. The goals of the course are to: 1) learn the process of writing by drafting or redrafting a complete research paper, one section at a time 2) participate in the process of critical peer review 3) become knowledgeable about the process of submission/publication in peer-reviewed journals in Sociology and related social science fields 4) become more familiar with the often hidden processes of journal review, publication ethics, and interpreting/responding to editorial decisions
Spr SOC2460 S01 25734 F 9:00-12:00 (L. Lopez Sanders)

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
SOC 2960G. Spatial Data Analysis Techniques in the Social Sciences. Survey course of statistical methods that can be used to analyze spatial and/or clustered data at the individual and aggregate levels. Topics include multilevel analysis; fixed effects approaches; spatial choice; spatial autocorrelation, heterogeneity and dependence. Application with real data. Not a course about Geographic Information Systems (GIS) or mapping techniques.

SOC 2960M. Sociology of Organizations Graduate Seminar. The sociology of organizations offers a burgeoning and vibrant literature, with relevance not only for self-identified organizational sociologists, but also for scholars in fields as diverse as politics, development, industrial relations, finance, education, health care, and the arts. This seminar offers an intensive exploration of the "state of play" in contemporary macro-organizational theory. Shared and individual readings, coupled with weekly discussions and email dialogues, allow students to refine and extend their thinking on a series of important and controversial topics in the recent literature. Although this course has no formal prerequisites, the syllabus is aimed primarily at graduate students who enjoy some prior familiarity with organizational theory, whether in sociology or a kindred discipline. Enrollment limited to 15.

SOC 2960Y. Causal Analysis. "Does premarital cohabitation protect marriage?" "Does reducing class size improve elementary school education?" "Is there racial discrimination in the market for home loans?" We often use associations to claim causal effects. This course provides a broad introduction to causal analysis. We will address causal inference from observational and quasi-experimental research designs. Topics include instrumental variables estimation, difference-in-difference models, regression discontinuity, matching, propensity scores, heterogeneous treatment effects, and fixed effects models. The prerequisite of this course is SOC 2020 or equivalent.

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.

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

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 first year students. Instructor permission required. No permission will be given during pre-registration.

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 LITR 1010C and TSDA 1500). Enrollment is limited to 14 undergraduates per section. A limited number of spaces are reserved for incoming and transfer students. Instructor permission required. S/NC.

TAPS 0200. Playwriting II - Role Play. In this intermediate course, we will focus on bolstering our writerly voices while defining ongoing artistic practices. In this hybrid workshop and seminar, we will work toward writing one-act plays of our own, while investigating other writer’s worlds. In the plays we will encounter this semester, characters engage in some form of role play. We end up asking: what does it mean to play? How does a play play? Through this study, we will ask what it means for characters to be active, how to write plot as an offering of contrasts and tensions, and where exactly character is composed. S/NC.

TAPS 0220. Persuasive Communication. Provides an introduction to public speaking, and helps students develop confidence in public speaking through the presentation of persuasive speeches. Primarily for seniors. Limited to 18. 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 http://brown.edu/go/TAPS0220) 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.
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 16399 MW 11:00-1:50 ‘To Be Arranged’
Fall TAPS0230 S02 16410 TTh 1:00-3:50 (S. d’Angelo)
Spr TAPS0230 S01 25234 MW 1:00-3:50 (S. d’Angelo)

TAPS 0250. Introduction to Technical Theatre and Production
This course is an introduction to the basic principles of stagecraft, lighting and sound technology and the different elements of theatrical design. Instructor permission required. Enrollment limited to 15.
Fall TAPS0250 S01 16411 MWF 10:00-11:50 (A. Haynes)
Spr TAPS0250 S01 25237 MWF 10:00-11:50 (A. Haynes)

TAPS 0260. Stage Lighting
This course is an introduction to stage lighting. Enrollment limited to 20.
Fall TAPS0260 S01 16454 T 10:00-12:50 (T. Het)

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 15998 MTWTh 1:00-2:20 (J. Strandberg)

TAPS 0330. Mande Dance, Music and Culture
Mande, Dance, Music and Culture explores three distinct life-cycle and celebratory dances from the Bambara, Malinke, Wasalu, and Khassonke peoples of Mali, West Africa. Each dance is taught in relationship to relevant oral histories, folklore and contemporary expressions. Emphasis is placed upon building a mindful community of committed thinkers and doers. Attendance at the first class is required. There is an application process for enrollment. Enrollment limited to 100. S/NC.
Spr TAPS0330 S01 25223 MWF 1:00-2:50 (M. Bach-Coulibaly)

TAPS 0360. Viewpoints Technique: The Moving Body in Relation to Time, Space, and Ensemble
This course delves deeply into the Viewpoints as directors Anne Bogart and Tina Landau have adapted and defined them for training performers and generating composition. Viewpoints Technique systematically breaks down elements of time and space, providing a precise language for makers to communicate about dynamic staging and offering performing artists the tools to direct themselves more successfully from within composition. An indispensable practice for ensemble awareness. Viewpoints Technique invites us to break down the binary of the dance artist and theatre artist. All performers can benefit from this rigorous investigation of time and space and the pursuit of cohesive ensemble.
Fall TAPS0360 S01 16398 TTh 2:30-4:30 (S. Baryshnikov)

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 25248 TTh 10:30-11:50(09) ‘To Be Arranged’

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 integrate 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 25235 MW 4:00-5:50 ‘To Be Arranged’

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 and Trinity Rep stage managers during the production process. Enrollment limited to 12.
Fall TAPS1100 S01 16459 F 10:00-12:50 (B. Reo)

TAPS 1230. Global Theatre and Performance: Paleolithic to the Threshold of Modernity
This course explores performance practices that predate the European Renaissance across disparate parts of the globe. Considered will be Paleolithic rock art and other evidence of ritual practices in Europe, Africa, and the Americas; ritual dramas of Egypt, Greece, and the Roman Empire; Sub-Saharan African traditions and theatre/dance forms in ancient India, medieval Japan and the indigenous Americas. In short, we will explore a wealth of differing ancestral theatrical modes and methods that continue to leave their mark in contemporary diasporic expressions.
Fall TAPS1230 S01 16451 TTh 10:30-12:20 (R. Schneider)

TAPS 1240. Performance Historiography and Theatre History
This course will provide an introduction to performance history and historiography by concentrating on analysis of dramatic texts, theatrical events, festival performances and "performative" state and religious ceremonies from 1500-1850. We will explore incidents in Asia, the Americas and Europe as related to state consolidation, colonization, incipient nationalism(s), urbanization, cultural negotiation, and the representational practices the enacted. Enrollment limited to 35.
Spr TAPS1240 S01 25505 TTh 10:30-11:50(09) (L. Hilton)

TAPS 1250. Late Modern and Contemporary Theatre and Performance
This class provides introduction to an array of theatre and performance forms of 20th- and 21st-century Europe and North America. We explore historical realism and naturalism to symbolism, the birth of avant-garde, constructivism, dada and surrealism, and myriad other modernist isms. After Stein, Artaud, and Brecht, we jump to Americas and indigenous theatre, the Harlem Renaissance, site specific art, and innovative companies and practitioners from Maria Irene Fornes to the Wooster Group, Augusto Boal and more. We study playwrights, directors, actors, dancers, designers, and performance artists. The focus is on "experimental" forms, recalling that even naturalism, in its day, was "revolutionary."
Spr TAPS1250 S01 25506 TTh 1:00-2:20(08) (J. Dellecave)

TAPS 1280F. Introduction to Set Design
Students will explore set/scenic design for live performance in a studio format. The main objective is to introduce the language, tools, and technical skills involved in the discipline of scenic design and to lay the foundation for further study while empowering students to actively engage as set designers in productions on campus after taking the course. A special feature of the course are guest visits which will give students the opportunity to engage in dialogue with a professional director and playwright in order to situate set design as a conceptual artistic discipline which utilizes technical tools. Enrollment limited to 10.
Spr TAPS1280F S01 25245 M 3:00-6:50 (R. Fitzgerald)
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.
Fall TAPS1281A S01 16418 M 3:00-7:00 (R. Fitzgerald)

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 25481 MWF 10:15-12:15 (J. Dellecave)

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 dance studies? What constitutes dance as queer? Students will study, observe, examine, discuss, and at times participate in queer dance from a range of historical and global perspectives. Course readings are drawn from dance studies, critical race studies, gender and sexuality studies, and performance studies. Readings are complemented by screenings, movement exercises, and live performance. No prior dance or performance experience is necessary.
Spr TAPS1281G S01 25246 MW 4:00-5:20 (K. Moore)

TAPS 1281M. Introduction to Costume Construction.
An introduction to the study and practice of core costume construction skills. Topics include basic machine, hand sewing and patterning techniques. Instructor overrides will not be provided until the start of class.
Fall TAPS1281M S01 16458 W 3:00-6:00 (R. Cesario)

TAPS 1281Q. 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.
Spr TAPS1281Q S01 25504 TTh 1:00-3:50 (K. Moore)

TAPS 1281Q. Introduction to Critical Dance Studies.
Critical dance studies centers dancing bodies as integral to various social, cultural, and political identity-making practices. In this course students will study, observe, examine, discuss, and at times participate in popular, classical, and social dance forms from a range of historical and global perspectives. Our driving inquiries include: How does dance travel and transform through time and space? How does dance produce identities? How does dance complicate notions of authorship and originality? Course readings are drawn from dance studies, critical race studies, gender and sexuality studies, and performance studies. Readings are complemented by screenings, movement exercises, and live performance.
Fall TAPS1281Q S01 16453 TTh 2:30-3:50 (J. Dellecave)

TAPS 1281W. Artists and Scientists as Partners.
This course focuses on current research on and practices in arts and healing, with an emphasis on dance and music for persons with Parkinson’s Disease (PD) and Autism (ASD). Includes guest lecturers, readings, field trips, and site placements. Admission to class will be through application in order to balance the course between self-identified artists and scientists and those primarily interested in PD and those primarily interested in ASD. Enrollment limited to 30.
Fall TAPS1281W S01 16455 TTh 2:30-3:50 (J. Strandberg)

TAPS 1281Z. Artists and Scientists as Partners: Theory to Practice.
This course focuses on the application of current research in neuroscience, education, narrative medicine, and best practices in the arts for persons with neurological disorders. Through site placements, students provide arts experiences (primarily dance and music) for persons with Parkinson’s Disease (PD) and Autism Spectrum Disorders (ASD). The course also includes guest lecturers, readings, curriculum development, analyzing and developing research methodology, ethnographic research, and planning of and participation in a convening of artists, scientists and educators in an intergenerational exploration. Completion of TAPS 1281W highly recommended, but course may be taken with no prior experience in science, dance or music.
Spr TAPS1281Z S01 25511 TTh 2:30-3:50 (J. Strandberg)

TAPS 1342. Advanced Beginning Ballet.
This course is designed for students who have some dance background, or who have successfully completed Introduction to Ballet (TAPS 1341). Apart from working on core strength, alignment, and flexibility, we will focus on faster paced movement sequences, and prepare for turns and jumps appropriate for an advanced beginner level.
Fall TAPS1342 S01 16740 TTh 9:00-10:20 (P. Seto-Weiss)

TAPS 1343. Intermediate Ballet.
This course is designed for students who have successfully completed Advanced Beginning Ballet (TAPS 1342) and kept up with their dance conditioning, or for students with previous ballet experience at an advanced beginner/intermediate level. The main focus of this class is on center exercises, especially on pirouettes and petit, medium and grand allegro appropriate for an intermediate level.
Spr TAPS1343 S01 25528 TTh 9:00-10:20 (P. Seto-Weiss)

TAPS 1350. Dance Performance and Repertory.
Half course credit each semester. A study of dance repertory through commissioned new works, reconstruction, coaching, rehearsal, and performance. Guest artists and consultants from the American Dance Legacy Institute. Enrollment is by audition. Limited to skilled dancers. Instructor permission required. S/NC.
Fall TAPS1350 S01 15999 M 6:30-9:30 (J. Strandberg)
Fall TAPS1350 S01 15999 Th 8:00PM-10:00PM (J. Strandberg)
Fall TAPS1350 S01 15999 W 6:30-10:00PM (J. Strandberg)

TAPS 1360. Dance Performance and Repertory.
A study of dance repertory offered through commissioned new works, reconstruction, coaching, rehearsal, and performance. The course will explore the phenomenology of dance, audience-performer connection, theatre production and dance criticism, among other topics. Enrollment is by audition. Limited to skilled dancers. S/NC.
Spr TAPS1360 S01 25228 Th 8:00PM-10:00PM (J. Strandberg)
Spr TAPS1360 S01 25228 MW 6:30-9:30PM (J. Strandberg)

TAPS 1370. New Works/World Traditions.
As an Engaged Scholarship course, New Works develops new dance theater pieces that are rooted in research in Mindfulness, Somatic Studies, Mande Dance, Contact Improvisation, Butoh and Contemporary Vernacular dance forms. Guest artists from Japan, China, West Africa, the USA, and local community partners co-create new theatrical pieces for the concert stage. May be repeated for credit. S/NC.
Spr TAPS1370 S01 25231 T 6:00-8:00PM (M. Bach-Coulibaly)
Spr TAPS1370 S01 25231 T 6:00-10:00PM (M. Bach-Coulibaly)

TAPS 1380. Mise en Scene.
A reconstruction of the idea of a stage and a frame on the evidence of theory, novels, plays, and especially films—the seen and the unseen—using the organizing strategies of mystery. Art’s “impossible” brokering of the real and the representational in a dialectic of space is considered from a multiplicity of perspectives in diverse works. Enrollment limited to 20. Instructor permission required.
Fall TAPS1380 S01 16431 M 3:00-5:30 (S. Golub)

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
TAPS 1425. Queer Performance.
This seminar will examine the many meanings of queer performance. We will consider queerness as it is performed in a range of aesthetic genres—theater, music, dance, performance art, digital media—as well as in everyday vernacular contexts. We will explore how the interdisciplinary academic field of queer studies has turned to performance and performativity as key modes through which gender and sexuality are expressed. The class will place a particular emphasis on queer of color, trans*, and crip/queer approaches and cultural practices, addressing how queerness intersects with other axes of social difference, including race, class, and ability.
Spr TAPS1425 S01 25249 T 1:00-3:50 (L. Hilton)

TAPS 1500H. Advanced Playwriting.
This unique course combines Brown undergraduate/graduate students with Brown/Trinity M.F.A. Acting and Directing students to explore bodies on stage, in specific time and space. Students create original short, theatrical works as they examine and experiment with multiple narrative techniques. Classes include craft exercises and close readings of a diverse range of texts—all to look deeper at how works are built. Through energetic workshop-style classes, this rare and significant collaboration allows students of different backgrounds to experience the full process of drafting, hearing the words aloud, and revising original works. Open to graduate/undergraduate students. Prerequisite: TAPS 0100 and 0200. Enrollment limited.
Spr TAPS1500HS01 25522 F 10:00-12:30 'To Be Arranged'

TAPS 1510. Inventing Directing.
"Inventing Directing" is a course that deals with how a director gets thought into stage space via: different emphases communicated to actors; attention to the life of objects; exploration of the languages of stage space; accessing personal experience to deepen point of view; drawing upon film, the practical application of theory, and literature; vertical thinking; and spatializing time. The course will involve practical exercises and work on both scenes from plays and on material drawn from other sources.
Fall TAPS1510 S01 16435 MW 1:00-2:50 (S. Golub)

TAPS 1600. Dramaturgy.
This course is an introduction to dramaturgy and script analysis for advanced undergraduates. It will introduce a variety of plays and critical approaches to dramatic texts and performances with emphasis on culturally divergent dramaturgies, adaptation and textual analysis for performance.
Fall TAPS1600 S01 16748 W 3:00-5:00 (P. Ybarra)

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.
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 2100. Seminar in Performance Studies and Theatrical Theory.
Key texts in Performance Studies and Theatre Theory selected from works by ancient, modern, and contemporary philosophers, dramatists, performers, and theorists. Covers basic methodological trends crucial to thinking about mimesis and alterity, acting and actants, identity formation and disidentification, decolonial theory and feminist theory in relationship to the study of performance, performativity, drama and theatricality. Enrollment limited to 20.
Fall TAPS2100 S01 16452 W 3:00-5:30(17) (R. Schneider)

TAPS 2310. Graduate Playwriting.
With Word as the bodying forth into social reality of original experience, the structures, purposes and ethical risks of writing for performance are examined; experienced through the reading of each other's works-in-progress, through the reading of essays and in session exercises. Must be taken by playwriting grad students every semester in residence. May be taken multiple times for credit. Undergraduates will be admitted with permission of the instructor. S/N
Fall TAPS2310 S01 16740 Th 11:00-4:00 (J. Jarchow)
Spr TAPS2310 S01 25520 Th 11:00-4:00 (J. Jarchow)

TAPS 2450. Exchange Scholar Program.
Fall TAPS2450 S01 15540 Arranged 'To Be Arranged'

This course is open only to students of the Consortium. It will include fundamental exercises, textual analysis, rehearsal techniques, character and scene work designed to provide the student actor with a working method based upon the general principles of the Stanislavsky system. A major part of this course will include rehearsal and performance responsibilities.
Fall TAPS2500 S01 11349 Arranged (B. McEloney)

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 improvisation movement through physical contact.
Fall TAPS2505 S01 11350 Arranged (B. McEloney)
Fall TAPS2505 S02 17085 Arranged 'To Be Arranged'

This course is open only to students of the Consortium. It will provide a progression of exercises to free, develop and strengthen the voice as the actor's instrument. The classes focus on relaxation, physical awareness, breath, freeing the channel for sound developing the resonators, releasing the voice from the body, articulation, self-expression, and the link to text and acting.
Fall TAPS2510 S01 11351 Arranged (J. Feliciano-Sanchez Moser)

All Voice and Speech work has two underlying goals: for the actor to be heard; for the actor to be understood. A daily warmup, rigorous drilling, the learning of IPA, and its application in Standard American dialect will build muscle to strengthen your instrument for clarity of speech and train your ear to the nuances of speech sounds, invaluable for dialect and character work. The Alexander Technique uses gentle guidance to enable 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 11352 Arranged (J. Feliciano-Sanchez Moser)
Fall TAPS2515 S02 17086 Arranged 'To Be Arranged'

TAPS 2520. Movement: Form, Center and Balance.
This course is open only to students of the Brown University/Trinity Rep MFA Consortium program. It will develop a physical vocabulary through floor work, choreographed combinations and movement improvisation, helping the actor develop an understanding of space, strength of movement, and physical life onstage.
Fall TAPS2520 S01 11353 Arranged (S. Baryshnikov)

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
TAPS 2530. Directing: Composition and Staging
This course is open only to the MFA Consortium program. It will include information and exercises addressing how to stage a play, balance the space, and transition from scene to scene. It will also focus on the director's responsibility to the actors, and ways in which to help them create their roles.
Fall TAPS2530 S01 11354 Arranged (B. Mertes)

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 11355 Arranged (B. Mertes)
Fall TAPS2535 S02 17087 Arranged (B. Mertes)

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 11356 W 3:00-5:00 (P. Ybarra)
Fall TAPS2545 S02 17099 W 3:00-5:00 (P. Ybarra)

TAPS 2550. Acting: Realism and Modernism.
This is a two-credit course and is open only to students of the MFA Consortium program. This is a scene study class with an emphasis 20th century playwrights. In addition to the works of Anton Chekhov, students may perform scenes from plays by Tennessee Williams, Arthur Miller, Clifford Odets, Wendy Wasserstein, Peter Parnell, Paula Vogel, Edward Albee and Harold Pinter.
Spr TAPS2550 S01 20162 Arranged (B. McEleney)

TAPS 2555. Advanced Acting: Modern and Contemporary Realism.
Purpose: To provide a deepened understanding of the principles of Stanislavskian-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 25580 Arranged (S. Berenson)

TAPS 2560. Voice: Phonetics.
This course is open only to students of the Brown University/Trinity Rep MFA Consortium program. The course will teach articulation, self expression, and link to text and acting. Additional work is devoted to speech and diction, with an introduction to the International Phonetic Alphabet (IPA) and a progression through Standard American Speech to rudimentary dialect work.
Spr TAPS2560 S01 20163 Arranged (T. Jones)

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 25581 Arranged (S. Baryshnikov)

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 25583 W 2:00-4:00 (P. Ybarra)

TAPS 2580. Directing: Collaboration with the Playwright.
This course is open only to students of the MFA Consortium program. It will focus on issues of collaboration between the playwright and the director. Each director will be assigned to work on a new script in cooperation with a playwright. A workshop production will be staged and open to the public.
Spr TAPS2580 S01 20165 Arranged (B. Mertes)

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 25582 Arranged (B. Mertes)

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 11357 Arranged (J. Feliciano-Sanchez Moser)
Fall TAPS2605 S02 17088 Arranged “To Be Arranged”

TAPS 2610. Voice: Verse Text.
This course is open only to students of the MFA Consortium program. It will include advanced vocal work and an introduction to singing in performance. Rhythm and rhyme will be explored in relation to lyrics and verse.
Fall TAPS2610 S01 11358 Arranged (J. Feliciano-Sanchez Moser)

This course is open only to students of the MFA Consortium program. This class will provide a step-by-step understanding and application of The Alexander Technique, which helps to develop body alignment, range of motion, and inner stillness.
Fall TAPS2620 S01 11359 Arranged (S. Baryshnikov)

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 11360 Arranged (D. Smith)
Fall TAPS2625 S02 17093 Arranged (D. Smith)

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
TAPS 2630. Directing: The Director's Vision.  
This course is open only to students of the MFA Consortium program. Under close supervision, students will direct projects at the Consortium. Each student will be responsible for the creation of either a new or an established script. Students will meet regularly with the faculty to discuss process and progress.  
Fall TAPS2630 S01 11361 Arranged (B. Mertes)

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.  
Fall TAPS2655 S01 17092 Arranged  
Spr TAPS2655 S02 20168 Arranged (T. Jones)  
Spr TAPS2655 S02 25584 Arranged "To Be Arranged"

This course is open only to students of the MFA Consortium program. Students will work on music, both as soloists and in small groups. The course will address issues of sight reading, breath support, phrasing, and how to stage a song for performance.  
Spr TAPS2660 S01 20167 Arranged (T. Jones)

TAPS 2670. Movement: Stage Combat, Clowning, and Other Physical Form.  
This course is open only to students of the MFA Consortium program. It will offer basic instruction in many physical areas including, but not limited to stage combat, juggling, mime, tumbling and clowning.  
Spr TAPS2670 S01 20168 Arranged (S. Baryshnikov)

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 20169 Arranged (D. Smith)  
Spr TAPS2675 S02 25586 F 10:00-12:30 "To Be Arranged"

This course is open only to students of the MFA Consortium program. It will include issues of directing, as well as the concerns of an Artistic Director and Associate Artistic Director. Each student will be expected to assist director to direct a professional production at Trinity Rep Company.  
Spr TAPS2680 S01 20170 Arranged (B. Mertes)

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 11362 Arranged (B. McEleny)  
Fall TAPS2705 S02 17094 Arranged (B. Mertes)

This course is open only to students of the Brown University/Trinity Rep MFA Consortium program. This course will teach actors various American regional dialects and international acccents including British, Irish, Italian and Russian. Students will examine the language with the use of the International Phonetic Alphabet, and will be expected to perform using the regionalisms and dialect and then teach it to the rest of the class.  
Fall TAPS2710 S01 11363 Arranged (J. Feliciano-Sanchez Moser)

TAPS 2720. Physical Theatre.  
This course is open only to students of the Brown University/Trinity Rep MFA Consortium program. This course will explore various kinds of physical theatre, and ways in which the actor can be free, spontaneous and open in rehearsal and performance. Areas of exploration will include Commedia, mask and yoga.  
Fall TAPS2720 S01 11364 Arranged (S. Baryshnikov)

This is a two-credit course and is open only to students of the Brown/Trinity Rep MFA Consortium program. Directing students will study theatrical design including stage settings, costumes, lights and sound. Particular focus will be given to ways in which a director works with a designer to establish his or her vision of the play. Areas of study will include blueprints, floor plans, renderings and focus.  
Fall TAPS2730 S01 11365 Arranged (B. Mertes)

TAPS 2755. Third Year Practicum: The Actor as Total Theatre Artist.  
Acting, Directing, Voice, Movement, and Playwriting faculty.  
Spr TAPS2755 S01 20171 Arranged  
Spr TAPS2755 S02 25590 Arranged "To Be Arranged"

TAPS 2760. Professional Performance.  
This is a two-credit course and is open only to students of the Brown University/Trinity Rep MFA Consortium program. It will include performance work in a variety of venues including, but not limited to, Trinity Rep's mainstage. Work might include major and/or minor roles at Trinity, as well as understudy responsibilities for the professional company. Based on their participation in this course, students will be awarded their union cards so that they are able to enter the professional area upon graduating.  
Spr TAPS2760 S01 20172 Arranged (S. Berenson)

This is a two-credit course and is open only to students of the Brown University/Trinity Rep MFA Consortium program. Each student will direct a professional full-scale production in one of Trinity Rep's theatres. In addition to directorial duties, students will assist in casting and designing the play, and will be fully involved in areas of budget, publicity, press relations, marketing and development.  
Spr TAPS2770 S01 20173 Arranged (B. Mertes)

TAPS 2970. 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 TAPS2970 S01 15541 Arranged "To Be Arranged"  
Spr TAPS2970 S01 24328 Arranged "To Be Arranged"

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 2980. 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 2981. 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.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
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 15542 Arranged "To Be Arranged"
Spr TAPS2990 S01 24329 Arranged "To Be Arranged"

University Courses
In this course, we will study narrative accounts of 20th-century American incidents in which racism led to the persecution of members of minority groups by means of lynchings, miscarriages of justice, or the placement of people in internment camps: the unjustly conducted trial and lynching of the Jewish factory manager Leo Frank accused of murdering a young girl in Georgia; the kidnapping and murder of African American adolescent Emmett Till in Mississippi; and the internment of Japanese descendants during World War II out of fear that they would aid America's enemy.
Fall UNIV1005 S01 15762 MWF 11:00-11:50(16) (D. Jacobson)

Immigrants own over a quarter of newly established businesses, despite accounting for less than 15 percent of the total U.S. population. 45 percent of immigrant business owners are women. These entrepreneurs have developed businesses in various industries including healthcare and medicine, biotech, hospitality, food services, garment and technology. Course traces U.S. history of 18th century immigrant entrepreneurs (Italians, Germans, ethnic and religious affiliated Jews) to more recent entrepreneurs from countries such as China, South Korea, Japan, Iran, Cuba. We examine today's emerging immigrant entrepreneurs including Mexicans and Filipinos, and among the more recent immigrant groups, including Vietnamese, Cambodians, Ethiopians, Eritreans.
Spr UNIV1089 S01 25325 TTh 2:30-3:50(11) (J. Nazareno)

UNIV 1520. The Shaping of World Views.
To many students, an exclusive emphasis on specialized studies fragments the "world" in which they live. A widespread feeling of loss pervades the minds of students who often come to universities to learn right from wrong, to distinguish what is true from what is false, but who realize at the end of four years that they have deconstructed their freshman beliefs, values, and ideologies, but have created nothing to replace them. This course examines the diversity of worldviews both synchronically and diachronically and surveys various explanations for such diversity. Enrollment limited to 30. Conducted in English.
Spr UNIV1520 S01 25215 MWF 2:00-2:50(07) (O. Almeida)

Urban Studies
URBN 0210. The City: An Introduction to Urban Studies.
This introductory course to Urban Studies is taught in an entirely new format. Led by Professor Zipp, it will include lectures by Urban Studies faculty who will present their views of the field. It offers an interdisciplinary approach to the history, physical design, spatial form, economy, government, cultures, and social life of cities worldwide. Which are the most urgent issues facing cities today? How will continued urban growth affect the environment? How can we learn from historic approaches to urban planning? Which are the most promising solutions to relieve urban inequality? What can be learned from ‘informal housing’ developments?
Fall URBN0210 S01 15736 TTh 10:30-11:50(13) (S. Zipp)

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 15666 TTh 9:00-10:20(02) (M. Orr)

URBN 1870A. American Culture and the City.
This course explores American culture and the way it shapes our cities. Topics include the American dream, race, immigration, urban dilemmas, white supremacy, and the seduction of suburbia. We read a book (readings include Alexis de Tocqueville, Richard Wright, Toni Morrison, Tom Wolfe, W.E.B Du Bois, and others. Films include Wall Street and Gangs of New York. Prerequisite: POLS 0220. Priority given to Urban Studies concentrators.
Spr URBN1870A S01 24416 W 3:00-5:30(10) (J. Morone)

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 15669 Th 4:00-6:30(04) (R. Azar)

URBN 1870M. Urban Regimes in the American Republic.
A probing of topical issues in both their theoretical antecedents and their contemporary manifestations. Examines the intellectual debates and the scholarly treatments surrounding issues of power in the city, urban redevelopment policy, urban poverty, urban educational policy, and race in the city. Enrollment limited to 20.
Fall URBN1870M S01 15668 M 3:00-5:30(05) (M. Orr)

This seminar explores how urban planners in the U.S. plan for and around various transportation networks. We will examine how these networks are designed and funded, which modes get priority over others, and ultimately how transportation shapes the built environment. Realworld examples of plans and projects from Providence and Rhode Island are used throughout the course. Important concepts are illustrated through field trips and guest speakers.
Spr URBN1870TS S01 24417 Th 4:00-6:30(17) (R. Azar)

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).
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. The Registrar’s Office manages an online lottery for registration for this popular course. Students not enrolled through the lottery should attend the first class meeting.

Fall VISA0100 S01 17139 MW 10:00-11:50 "To Be Arranged"
Fall VISA0100 S02 17141 MW 1:00-2:50 "To Be Arranged"
Fall VISA0100 S03 17142 MW 4:00-5:50 "To Be Arranged"
Fall VISA0100 S04 17143 MW 7:00-8:50PM "To Be Arranged"
Fall VISA0100 S05 17144 TTh 1:00-2:50 "To Be Arranged"
Fall VISA0100 S06 17145 TTh 4:00-5:50 "To Be Arranged"
Fall VISA0100 S07 17146 TTh 7:00-8:50PM "To Be Arranged"
Spr VISA0100 S01 25741 MW 10:00-11:50 "To Be Arranged"
Spr VISA0100 S02 25743 MW 1:00-2:50 "To Be Arranged"
Spr VISA0100 S03 25744 MW 4:00-5:50 "To Be Arranged"
Spr VISA0100 S04 25745 MW 7:00-8:50PM "To Be Arranged"
Spr VISA0100 S05 25746 TTh 10:00-11:50 "To Be Arranged"
Spr VISA0100 S06 25747 TTh 1:00-2:50 "To Be Arranged"
Spr VISA0100 S07 25748 TTh 4:00-5:50 "To Be Arranged"

VISA 0120. Foundation Media.
Foundation media focuses on the production and theory of time-based digital media and introduces the computer as a medium and a tool for art. Students will experiment with the production of video, sound, and interactive media. Students will examine and produce work that is multidisciplinary in nature, combining aspects of critical discourse, art, and technology.

Fall VISA0120 S01 17147 TTh 10:00-11:50 (E. Osborn)
Spr VISA0120 S01 25750 TTh 10:00-11:50 (E. Osborn)

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 17149 W 9:00-12:50 "To Be Arranged"
Spr VISA0140 S02 25752 T 9:00-12:50 (T. Ganz)

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 17150 Th 5:00-8:50PM "To Be Arranged"
Fall VISA0150 S02 17151 Th 9:00-12:50 "To Be Arranged"
Spr VISA0150 S01 25753 MW 5:00-8:50 "To Be Arranged"
Spr VISA0150 S02 25754 TTh 5:00-6:50 "To Be Arranged"

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. Enrollment restricted to 18 students.

Fall VISA1110 S01 17153 TTh 9:00-10:50 (P. Myoda)

VISA 1120. Drawing II.
Drawing from the imagination, the model, and landscapes in a variety of media. Great emphasis is placed on creative work and on classroom participation. Prerequisite: VISA 0100 or 0110. This course restricted to 20 students. 18 seats will be available during pre-registration. This class will satisfy VA concentration requirement for drawing. Students who are not admitted during pre-registration or were unable to pre-register should attend the first meeting.
Spr VISA1120 S01 25757 MW 10:00-11:50 "To Be Arranged"

VISA 1201E. Printmaking.
This course covers a range of traditional and digital printmaking processes. The course will explore how traditional and digital techniques can be used together and how they may interact with and influence one another. Work will be in both black and white and color. Prerequisite: VISA 0100 or VISA 0110.
Fall VISA1210E S01 17154 TTh 1:00-4:50 (A. McNeary)

VISA 1240. Art of the Book.
We 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. Students who are not admitted during pre-registration or were unable to pre-register should attend the first meeting.
Fall VISA1240 S01 17155 TTh 9:00-12:50 "To Be Arranged"

VISA 1250. Art of the Book.
We will examine the artist's book from the printer/publisher perspective. Students will learn the basics of book design, traditional typography & letterpress printing. Students will consider the book and its related printed matter in service of its content. The course will be run as a fine press publishing house. Students will produce individual and group projects, including bookplates, broadsides, and books. Studio work will be augmented with field trips, artist visits, and guided exploration of the special collections at the John Hay Library. Students who are not admitted during pre-registration or were unable to pre-register should attend the first meeting.
Spr VISA1250 S01 25759 MW 1:00-4:50 "To Be Arranged"

VISA 1310. Beginning Painting.
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. Enrollment limited to 14. Prerequisites: VISA 0100.
Fall VISA1310 S01 17156 MW 1:00-4:50 (L. Tarentino)
Spr VISA1310 S01 25760 TTh 1:00-4:50 (A. Evans)

VISA 1320. Advanced Painting.
This course is an in-depth investigation of contemporary painting practices and concepts, with a strong emphasis placed on critique. Experimentation and exploration of individual themes is emphasized. Affords an opportunity for in-depth investigations of painting techniques and ideas and the development of a series of works reflecting an individual creative vision.
Fall VISA1320 S01 17157 TTh 1:00-4:50 (A. Evans)
Spr VISA1320 S01 25761 MW 1:00-4:50 (L. Tarentino)

VISA 1410. Sculpture: Material Investigations.
This studio course addresses basic sculptural methods, i.e., additive & subtractive modeling, casting, and assemblage, and common sculptural materials, i.e., wood, metal, plaster, and found objects. Demos & workshops on a number of sculptural tools and materials form the foundation for this studio. Students develop sculptural solutions to a given set of problems. Contemporary issues raised in critiques and readings. Extensive outside work is expected. Students who are not admitted during pre-registration or were unable to pre-register should attend the first meeting of the class.
Fall VISA1410 S01 17160 TTh 12:00-3:50 (P. Myoda)

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
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. Please attend first day of class.

Spr VISA1420 S01 25763 TTh 12:00-3:50 (P. Myoda)

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. Students may check out 35 mm film camera from the Dept.

Fall VISA1510 S01 17161 MW 1:00-4:50 "To Be Arranged"
Spr VISA1510 S01 25764 MW 1:00-4:50 (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, slideshow, studio and critique. Prior experience in photography preferred not required. A digital SLR type camera may be checked out from the Department.

Fall VISA1520 S01 17162 TTh 1:00-4:50 "To Be Arranged"
Spr VISA1520 S01 25767 MW 1:00-3:50 "To Be Arranged"

VISA 1600. Social Practice: Art in Everyday Life.
This interdisciplinary course explores theoretical and practical ways that art can engage community. We will explore methods for social interventions, collaboration, and the notion of art as activism. Part studio and part seminar, this course examines our role in society as cultural producers. Students will engage in a series of readings and assignments that will help them prepare for a self-directed, socially engaged project of their choosing. They may work in any artistic medium and in communities of their choice. Students will work outside of class on their projects and present documentation of its development for class critique.

Spr VISA1600 S01 25768 W 1:00-4:50 (H. Metaferia)

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 VISA1800C S01 17163 TTh 1:00-4:50 (L. Bostrom)

Visual artists don't have agents or managers--you have to do it all yourself. This class covers business basics including tracking inventory and preparing invoices; taking legal precautions like registering a copyright and drafting consignment forms; using promotional tools; and making decisions such as choosing the right venue for your work. Grants, residencies, and relationships with galleries & nonprofit institutions will be discussed in depth. Work will emphasize community the practical, skills to thrive as a visual artist. Enrollment limited to 20 juniors and seniors in Visual Art.

Spr VISA1800P S01 25770 F 1:00-4:50 (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.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
For more information about the concentration, please contact Professor Françoise Hamlin (Francoise_Hamlin@brown.edu), 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. Please visit the department website for proposal guidelines. This preliminary plan should include a timeline for completion of the thesis and is not to exceed one (1) typewritten page. This plan should also include a bibliography that students have developed with their thesis advisor to guide their summer reading.

By the end of the summer, the Honor's candidate should be familiar with the secondary works in the field. (Secondary readings should be extensive and be incorporated into the final proposal, due Monday, September 14, 2020.) The student should also identify a second reader at this point. The final work plan/proposal, not to exceed three (3) typewritten pages, should incorporate the summer research findings and updates to the completion deadline. The final proposal must be approved and signed by a committee, comprised of the faculty advisor who is to direct the Honor's thesis, the second reader, and the concentration advisor. By the end of week three of the first senior semester, the thesis advisor should inform the Director of Undergraduate Studies by email that the proposal has been approved.

The Honor's candidate should complete at least one chapter of distinguished quality while enrolled in an independent study with their faculty advisor during the first semester of the senior year. Students must enroll in at least one, preferably two, semesters of independent study to work on their thesis.

For students completing graduation requirements by the end of Semester I (Fall), a first complete draft of the thesis should be completed by Friday, November 6, 2020. Final drafts must be submitted by Friday, November 27, 2020. For students completing graduation requirements by Semester II (Spring), a first complete draft of the thesis should be submitted by Friday, March 12, 2021. The final draft of the thesis should be submitted by Friday, April 16, 2021. Students must submit bound copies of the final thesis to the department and to each of their readers, along with an electronic copy of the completed thesis to the Academic Department Manager. All students are expected to formally present their thesis projects in the Department of Africana Studies on Monday, April 26, 2021 at a time to be determined. After this presentation, a department committee will make recommendations for honors to the Director of Undergraduate Studies and students will receive notification of the recommendation.

American Studies

The concentration in American Studies seeks to understand American society and cultures as emerging from historical and contemporary processes at work in local, national, and global contexts. Concentrators study four broad themes: social structure and the practices of identity, space and place, production and consumption of culture, and science, technology, and everyday life. The concentration is predicated on the ideal of scholarly engagement with the public, so students take junior seminars that engage some aspect of the public humanities such as public policy, memorialization, community studies or civic engagement. Study abroad is supported and encouraged.

Interested students may contact the director of undergraduate studies. A concentrator in American Studies will be able to:

- Analyze texts, contexts, and data from multiple disciplinary and historical perspectives
- Synthesize research as verbal, visual and/or digital presentations
- Explore the theory and/or practice of the engagement of scholarship with a broader public
- Understand how American society and cultures have been and are being shaped by global flows of people, goods and ideas
- Experiment with new media as critical tools for scholarship

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Concentrators have gone on to a vast variety of careers, including law, public humanities, politics, public service, academics, business, creative arts, and medicine.

**Requirements:**

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 structure 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.

**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>
<tr>
<td>AMST 1900U</td>
<td>Immigrant Radicals: Asian Political Movements in the Americas 1850-1970</td>
</tr>
<tr>
<td>AMST 1900V</td>
<td>Immigrants, Exiles, Refugees, and Citizens in the Americas</td>
</tr>
</tbody>
</table>

Two additional upper-level seminars taken from the AMST 1700, AMST 1800, or AMST 1900 series:

Six upper-level lectures or seminars numbered between AMST 1000 and AMST 1900, 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 Unthinkable: 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>

Total Credits: 10

**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, oral, 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 ethnography, 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 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. The concentration provides students with a broad introduction to the discipline and includes the major subdisciplines of the field: sociocultural anthropology, archaeology, anthropological linguistics, and biological anthropology. The department also allows students to pursue the Engaged Scholars Program (https://www.brown.edu/academics/college/special-programs/public-service/engaged-scholars-program). ESP is for students with an interest in making deeper connections between their concentration curriculum and long-term engaged activities such as internships, public service, humanitarian and development work, archaeological excavations, and many other possible forms of community involvement.

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

Choose one foundational course in sociocultural, linguistic anthropology, or medical anthropology:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</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 archaeology or biological anthropology:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<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 of the following courses in anthropological methodology, to prepare students for further research:

<table>
<thead>
<tr>
<th>Course</th>
<th>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>
</tbody>
</table>

Choose one of the following courses in sociocultural anthropology or linguistic anthropology such as:

<table>
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<tr>
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<tbody>
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<td>1</td>
</tr>
<tr>
<td>ANTH 0110</td>
<td>Anthropology and Global Social Problems: Environment, Development, and Governance</td>
<td>1</td>
</tr>
<tr>
<td>ANTH 0800</td>
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<td>1</td>
</tr>
<tr>
<td>ANTH 0805</td>
<td>Language and Migration</td>
<td>1</td>
</tr>
<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 1255</td>
<td>Anthropology of Disasters</td>
<td>1</td>
</tr>
<tr>
<td>ANTH 1320</td>
<td>Anthropology and International Development: Ethnographic Perspectives on Poverty and Progress</td>
<td>1</td>
</tr>
<tr>
<td>ANTH 1848</td>
<td>Ethnography + Social Critique</td>
<td>1</td>
</tr>
<tr>
<td>ANTH 1940</td>
<td>Ethnographic Research Methods</td>
<td>1</td>
</tr>
</tbody>
</table>

Choose any one 0000 or 1000-level course in socio-cultural anthropology or linguistic anthropology such as:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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</tr>
</thead>
<tbody>
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<td>ANTH 1940</td>
<td>Ethnographic Research Methods</td>
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</tr>
</tbody>
</table>

At least one 1000-level course in medical anthropology such as:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTH 1242</td>
<td>Bioethics and Culture</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>International Health: Anthropological Perspectives</td>
<td>1</td>
</tr>
</tbody>
</table>

An additional three anthropology courses of the student's choosing. At least two of the electives must be at the 1000-level to meet the general requirements of the concentration.

At least one non-anthropology course in the natural sciences, public health, or psychology that focuses on human health to give students basic exposure to the science of human physical and/or mental health. This course is in addition to the nine courses required in ANTH.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTH 1990</td>
<td>Senior Seminar: (Re)Making Anthropology</td>
<td>1</td>
</tr>
</tbody>
</table>

Total Credits 10

1 Other appropriate anthropology courses may be used to fulfill this requirement with DUS approval
2 Most qualifying courses will bear a BIOL, PHP, or CLPS designation but students can choose any appropriate course to fulfill this requirement with DUS approval.

Medical Anthropology Track

<table>
<thead>
<tr>
<th>Course</th>
<th>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:

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</thead>
<tbody>
<tr>
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<td>Human Evolution</td>
<td>1</td>
</tr>
<tr>
<td>ANTH 0500</td>
<td>Past Forward: Discovering Anthropological Archaeology</td>
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</tr>
</tbody>
</table>

Choose any one 0000 or 1000-level course in socio-cultural anthropology or linguistic anthropology such as:

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</tr>
<tr>
<td>ANTH 1940</td>
<td>Ethnographic Research Methods</td>
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</tr>
</tbody>
</table>

At least one 1000-level course in medical anthropology such as:

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Total Credits 10

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Socio-Cultural Anthropology Track

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<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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<th>Credits</th>
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<tbody>
<tr>
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For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
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<tr>
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</tr>
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<td>ANTH 1940</td>
<td>Ethnographic Research Methods</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>At least two 1000-level courses that focus on specific aspects of sociocultural methods or theories, or in a particular region:</td>
<td>2</td>
</tr>
<tr>
<td>ANTH 1111</td>
<td>Anthropology of China</td>
<td></td>
</tr>
<tr>
<td>ANTH 1150</td>
<td>Middle East in Anthropological Perspective</td>
<td></td>
</tr>
<tr>
<td>ANTH 1240</td>
<td>Religion and Culture</td>
<td></td>
</tr>
<tr>
<td>ANTH 1242</td>
<td>Bioethics and Culture</td>
<td></td>
</tr>
<tr>
<td>ANTH 1255</td>
<td>Anthropology of Disasters</td>
<td></td>
</tr>
<tr>
<td>ANTH 1300</td>
<td>Anthropology of Addictions and Recovery</td>
<td></td>
</tr>
<tr>
<td>ANTH 1301</td>
<td>Anthropology of Homelessness</td>
<td></td>
</tr>
<tr>
<td>ANTH 1310</td>
<td>International Health: Anthropological Perspectives</td>
<td></td>
</tr>
<tr>
<td>ANTH 1320</td>
<td>Anthropology and International Development: Ethnographic Perspectives on Poverty and Progress</td>
<td></td>
</tr>
<tr>
<td>ANTH 1848</td>
<td>Ethnography + Social Critique</td>
<td>3</td>
</tr>
</tbody>
</table>

An additional three anthropology courses of the student's choosing. At least one of the electives must be at the 1000-level to meet the general requirements of the concentration.

ANTH 1990 Senior Seminar: (Re)Making Anthropology 1

Total Credits 9

**Linguistic Anthropology Track**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTH 0800</td>
<td>Sound and Symbols: Introduction to Linguistic Anthropology</td>
<td>1</td>
</tr>
</tbody>
</table>

One additional course in linguistic anthropology from the following:

ANTH 0805 Language and Migration 1
ANTH 1810 Language and Power 1

Two other foundational courses in anthropology:

Choose one:

ANTH 0100 Introduction to Cultural Anthropology 2
ANTH 0300 Culture and Health 2

Choose one:

ANTH 0310 Human Evolution 1
ANTH 0500 Past Forward: Discovering Anthropological Archaeology 1

ANTH 1940 Ethnographic Research Methods 1
ANTH 1990 Senior Seminar: (Re)Making Anthropology 1

An additional three anthropology courses of the student's choosing. At least two of the electives must be at the 1000-level to meet the requirements of the concentration.

At least one general course focusing on aspects of linguistic structure. 1

At least one language course (one semester) in any language other than English 1

Total Credits 11

1 This requirement 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.

2 This course is in addition to the nine courses required in ANTH. Students interested in studying a language not offered at Brown should consult with Linguistic Anthropology faculty and the DUS.

**Anthropological Archaeology Track**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTH 0500</td>
<td>Past Forward: Discovering Anthropological Archaeology</td>
<td>1</td>
</tr>
<tr>
<td>ANTH 0100</td>
<td>Introduction to Anthropological Archaeology</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Choose one course in anthropological archaeology methodology:</td>
<td></td>
</tr>
<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></td>
</tr>
<tr>
<td>ARCH 1900</td>
<td>The Archaeology of College Hill</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Choose one course that involves detailed archaeological investigation of a geographic region:</td>
<td>1</td>
</tr>
<tr>
<td>ANTH 1031</td>
<td>Classic Mayan Civilization</td>
<td></td>
</tr>
<tr>
<td>ANTH 1126</td>
<td>Ethnographies of Heritage: Community and Landscape of the Mediterranean and Beyond</td>
<td></td>
</tr>
<tr>
<td>ANTH 1505</td>
<td>Vertical Civilization: South American Archaeology from Monte Verde to the Inkas</td>
<td></td>
</tr>
<tr>
<td>ANTH 1624</td>
<td>Indians, Colonists, and Africans in New England</td>
<td></td>
</tr>
<tr>
<td>ANTH 1640</td>
<td>Maize Gods and Feathered Serpents: Mexico and Central America in Antiquity</td>
<td></td>
</tr>
<tr>
<td>ANTH 1650</td>
<td>Ancient Maya Writing</td>
<td></td>
</tr>
<tr>
<td>ANTH 1692</td>
<td>Southwestern Archaeology</td>
<td>1</td>
</tr>
</tbody>
</table>

One 1000-level course in anthropology with significant archaeological, material culture, and/or museum studies focus may be used to meet this requirement. Other regularly offered courses that meet this requirement include:

ANTH 1125 Indigenous Archaeologies 1
ANTH 1620 Global Historical Archaeology 1
ANTH 1623 Archaeology of Death 1
ANTH 1820 Lost Languages: The Decipherment and Study of Ancient Writing Systems 1

Three anthropology courses of the student's choosing. At least one of the electives must be at the 1000-level to meet the general requirements of the concentration.

ANTH 1990 Senior Seminar: (Re)Making Anthropology 1

Total Credits 9

1 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. Per the broader requirements of the concentration, students must still complete nine anthropology credits at Brown or via transfer credits. Note that many field schools do not carry credit.

2 Other anthropological archaeology courses with significant geographic focus may be used to fulfill this requirement with DUS approval.

3 Other anthropology courses with significant archaeological, material culture, or museum studies focus may be used to fulfill this requirement with DUS approval.

**Biological Anthropology Track**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTH 0310</td>
<td>Human Evolution</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Choose one foundational course in cultural anthropology, medical anthropology, or linguistic anthropology:</td>
<td>1</td>
</tr>
<tr>
<td>ANTH 0100</td>
<td>Introduction to Cultural Anthropology</td>
<td></td>
</tr>
<tr>
<td>ANTH 0300</td>
<td>Culture and Health</td>
<td></td>
</tr>
<tr>
<td>ANTH 0800</td>
<td>Sound and Symbols: Introduction to Linguistic Anthropology</td>
<td></td>
</tr>
<tr>
<td>ANTH 1720</td>
<td>The Human Skeleton</td>
<td>1</td>
</tr>
</tbody>
</table>

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Five anthropology courses of the student’s choosing. At least three of the electives must be at the 1000-level to meet the requirements of the concentration.

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: 1

- APMA 0650 Essential Statistics
- BIOL 0495 Statistical Analysis of Biological Data
- CLPS 0900 Statistical Methods
- EDUC 1100 Introduction to Qualitative Research Methods
- SOC 1100 Introductory Statistics for Social Research
- PHP 1501 Essentials of Data Analysis
- ANTH 1990 Senior Seminar: (Re)Making Anthropology

Total Credits 11

1 Other courses may be substituted to meet this requirement with the permission of the DUS.

Engaged Scholars Program

The Engaged Scholars Program in Anthropology is geared for 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. 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.

Requirements for Engaged Scholars in Anthropology

Requirement information can be found at the Anthropology website: https://www.brown.edu/academics/anthropology/undergraduate-program/engaged-scholars-program

Honors

Candidates for honors should apply to the concentration advisor by the end of his or her 6th semester, but no later than the 4th week of the 7th semester. An application consists of a brief statement addressing the focus of a proposed thesis and the names and signatures of two faculty members from the Department of Anthropology who have agreed to serve as the student’s honors committee—one as honors thesis advisor, the other as a reader. Candidates for honors are required to:

1. Fulfill the standard concentration requirements.
2. Take two additional courses, usually , which may be used for thesis preparation.
3. Have a majority of A's in the concentration.
4. Submit an approved honors thesis.

Field Work

Concentrators interested in archaeology are urged to obtain training in field archaeology by participating in Brown-sponsored field research, or by participating in an archaeological field school elsewhere.

Applied Mathematics

The concentration in Applied Mathematics allows students to investigate the mathematics of problems arising in the physical, life and social sciences as well as in engineering. The basic mathematical skills of Applied Mathematics come from a variety of sources, which depend on the problems of interest: the theory of ordinary and partial differential equations, matrix theory, statistical sciences, probability and decision theory, risk and insurance analysis, among others. 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 are interested in the basic techniques and approaches in themselves. The standard concentration leads to either the A.B. or Sc.B. degree. Students may also choose to pursue a joint program with biology, computer science or economics. The undergraduate concentration guide is available here (http://www.brown.edu/academics/applied-mathematics/undergraduate).

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

- MATH 0090 Introductory Calculus, Part I
- MATH 0100 Introductory Calculus, Part II

Or their equivalent

Program

Ten additional semester courses approved by the Division of Applied Mathematics. These classes must include: 1

- MATH 0180 Intermediate Calculus 1
- MATH 0520 Linear Algebra 2

Select one course on programming from the following: 4

- APMA 0090 Introduction to Mathematical Modeling
- APMA 0160 Introduction to Scientific Computing
- CSCI 0040 Introduction to Scientific Computing and Problem Solving
- CSCI 0111 Computing Foundations: Data
- CSCI 0150 Introduction to Object-Oriented Programming and Computer Science
- CSCI 0170 Computer Science: An Integrated Introduction

Five additional courses, of which four should be chosen from the 1000-level courses taught by the Division of Applied Mathematics. APMA 1910 cannot be used as an elective.

Total Credits 10

1 Substitution of alternate courses for the specific requirements is subject to approval by the division.
2 Concentrators are urged to consider MATH 0540 as an alternative to MATH 0520.
3 APMA 0330, APMA 0340 will sometimes be accepted as substitutes for APMA 0350, APMA 0360. APMA 1910 cannot be used as an elective.
4 Concentrators are urged to complete their introductory programming course before the end of their sophomore year.

Standard program for the Sc.B. degree.

Program

Eighteen approved semester courses in mathematics, applied mathematics, engineering, the natural or social sciences. These classes must include: 1

- MATH 0090 Introductory Calculus, Part I
- MATH 0100 Introductory Calculus, Part II
- MATH 0180 Intermediate Calculus 2

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Directed Research/Independent Study

Advanced Placement Calculus

Honors Linear Algebra

18

Biomaterials

Basic Physics A

Computing Foundations: Data

Introductory Calculus, Part II

Statistical Inference I

Principles of Physiology

Foundations of Mechanics

Select one senior seminar from the APMA 1930 or APMA 1940 series, or an approved equivalent.

Select one course on programming from the following: 4

APMA 0090 Introduction to Mathematical Modeling

APMA 0160 Introduction to Scientific Computing

CSCI 0040 Introduction to Scientific Computing and Problem Solving

CSCI 0111 Computing Foundations: Data

CSCI 0150 Introduction to Object-Oriented Programming and Computer Science

CSCI 0170 Computer Science: An Integrated Introduction

Ten additional courses, of which six should be chosen from the 1000-level or higher level courses taught by the Division of Applied Mathematics. APMA 1910 cannot be used as an elective.

Total Credits 18

### Applied Mathematics-Biology

The Applied Math - Biology concentration recognizes that mathematics is essential to address many modern biological problems in the post genomic era. Specifically, high throughput technologies have rendered vast new biological data sets that require novel analytical skills for the most basic analyses. These technologies are spawning a new "data-driven" paradigm in the biological sciences and the fields of bioinformatics and systems biology. The foundations of these new fields are inherently mathematical, with a focus on probability, statistical inference, and systems dynamics. These mathematical methods apply very broadly in many biological fields including some like population growth, spread of disease, that predate the genomics revolution. Nevertheless, the application of these methods in areas of biology from molecular genetics to evolutionary biology has grown very rapidly with the availability of vast amounts of genomic sequence data. Required coursework in this program aims at ensuring expertise in mathematical and statistical analysis of vast new biological data sets that require novel analytical skills for the most basic analyses. These methods are spawning a new "data-driven" paradigm in the biological sciences and the fields of bioinformatics and systems biology.

**Required Courses:**

Students are required to take all of the following courses.

- MATH 0090 Introductory Calculus, Part I 1
- MATH 0100 Introductory Calculus, Part II 1
- or MATH 0170 Advanced Placement Calculus

- MATH 0180 Intermediate Calculus (or equivalent placement) 1
- MATH 0520 Linear Algebra 1
- APMA 0350 or MATH 0540 Honors Linear Algebra 1
- CHEM 0330 Equilibrium, Rate, and Structure 1
- PHYS 0030 Basic Physics A 1
- or PHYS 0050 Foundations of Mechanics 1

Select one of the following sequences:

- APMA 0350, APMA 0360
- APMA 0330, APMA 0340
- APMA 1650, APMA 1655
- APMA 1070, APMA 1080
- APMA 1930, APMA 1940
- APMA 1970, APMA 1980
- APMA 0160, CSCI 0040, CSCI 0150, CSCI 0170, CSCI 0190, CLPS 0950, Those who do can use it as their second Applied Math or Biology course.

- BIOL 1120, BIOL 1130, BIOL 1140, BIOL 1150

**Areas of Emphasis and Suggested Courses:**

- Biochemistry
- BIOL 0280
- BIOL 1270
- CHEM 0350/0360
- CHEM 1230
- Biotechnology and Physiology
- BIOL 0800
- BIOL 1100
- BIOL 1090
- BIOL 1120
- BIOL 1140
- BIOL 1150

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
BIOL 1210 Synthetic Biological Systems

Ecology, Evolution, and Genetics
BIOL 0410 Invertebrate Zoology
& BIOL 0480 and Evolutionary Biology
BIOL 0420 Principles of Ecology
& BIOL 0430 and The Evolution of Plant Diversity
BIOL 0470 Genetics
BIOL 1420 Experimental Design in Ecology
BIOL 1430 Population Genetics
BIOL 1465 Human Population Genomics
BIOL 1540 Molecular Genetics

Neuroscience
APMA 0410 Mathematical Methods in the Brain Sciences

Neurosciences courses: See https://www.brown.edu/academics/neuroscience/undergraduate/neuroscience-concentration-requirements
BIOL 1100 Cell Physiology and Biophysics
BIOL 1110 Topics in Signal Transduction
BIOL 1190 Synaptic Transmission and Plasticity

Total Credits 18

1 Students whose independent study is expected to be in an experimental field are strongly encouraged to take APMA 1660, which covers experimental design and the analysis of variance (ANOVA), a method commonly used in the analysis of experimental data.

Honors
Requirements and Process: Honors in the Applied Math-Biology concentration is based primarily upon an in-depth, original research project carried out under the guidance of a Brown (and usually Applied Math or BioMed) affiliated faculty advisor. Projects must be conducted for no less than two full semesters, and student smust register for credit for the project via APMA 1660 or BIOL 1950/BIOL 1960 or similar independent study courses. The project culminates in the writing of a thesis which is reviewed by the thesis advisor and a second reader. It is essential that the student have one advisor from the biological sciences and one in Applied Mathematics. The thesis work must be presented in the form of an oral presentation (arranged with the primary thesis advisor) or posted at the annual Undergraduate Research Day in either Applied Mathematics or Biology. For information on registering for BIOL 1950/BIOL 1960, please see https://www.brown.edu/academics/biology/undergraduate-education/undergraduate-research

Excellence in grades within the concentration as well as a satisfactory evaluation by the advisors are also required for Honors. The student’s grades must place them within the upper 20% of their cohort, in accordance with the university policy on honors. Honors recipients typically maintain a Grade Point Average of 3.4 or higher in the concentration. However, in the case of outstanding independent research as demonstrated in the thesis and supported by the Thesis Committee, candidates with a GPA between 3.0 and 3.4 will be considered and are encouraged to apply.

The deadline for applying to graduate with honors in the concentration are the same as those of the biology concentrations. However, students in the joint concentration must inform the undergraduate chair in Applied Mathematics of their intention to apply for honors by these dates.

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 computer science, applied mathematics, and scientific computation. 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
MATH 0090 Introductory Calculus, Part I
& MATH 0100 and Introductory Calculus, Part II
MATH 0170 Advanced Placement Calculus

Concentration Requirements (17 courses)
Core-Math:
MATH 0180 Intermediate Calculus
or MATH 0350 Honors Calculus
MATH 0520 Linear Algebra
or MATH 0540 Honors Linear Algebra
or CSCI 0530 Coding the Matrix: An Introduction to Linear Algebra for Computer Science

Core-Applied Mathematics:
APMA 0350 Applied Ordinary Differential Equations
APMA 0360 Applied Partial Differential Equations I
APMA 1170 Introduction to Computational Linear Algebra
or APMA 1180 Introduction to Numerical Solution of Differential Equations

Core-Computer Science:
Select one of the following Series:

Series A
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)

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 (math)
CSCI 0320 Introduction to Software Engineering (systems)
CSCI 0330 Introduction to Computer Systems (systems)
CSCI 1010 Theory of Computation (math)
CSCI 1450 Probability for Computing and Data Analysis (math) 1
or APMA 1650 Statistical Inference I

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Three 1000-level Computer Science courses. Two of these courses and the intermediate courses must satisfy one of the CS pathways. 1

Three 1000-level Applied Mathematics courses approved by the concentration advisor, of which two should constitute a standard sequence or address a common theme. Typical sequences include: APMA 1200/1210 and APMA 1650 or 1655/1660. APMA 1910 cannot be used as an elective.

A capstone course: 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.

Note: CSCI 1010 and 1450 may be used either as a math-oriented intermediate courses or as advanced courses. 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. However, concentration credit will be given for only one of Applied Math 1650, 1655, and CSCI 1450.

Total Credits 17

1 APMA 1650 may only be used if not being used as an Applied Math course.
2 Pathways may be viewed here: https://cs.brown.edu/degrees/undergrad/concentration-requirements/pathways-for-undergraduate-and-masters-students/
3 Capstone Options may be found here: http://cs.brown.edu/degrees/undergrad/concentration-requirements/capstone/

Requirements for the Professional Track of the Sc.B. degree.

The requirements for the professional track include all those of the standard track, as well as the following:

Students must complete two two-to-four-month full-time professional experiences, doing work that is related to their concentration programs. Such work is normally done within an industrial organization, but may also be at a university under the supervision of a faculty member.

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.

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.

Standard Program for the A.B. degree
(Advanced Economics track):

Prerequisites:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 0100</td>
<td>Introductory Calculus, Part II</td>
</tr>
<tr>
<td>MATH 0250</td>
<td>Linear Algebra</td>
</tr>
</tbody>
</table>

Course Requirements:

Applied Mathematics Requirements

<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>&amp; APMA 0360</td>
<td>and Applied Partial Differential Equations</td>
</tr>
</tbody>
</table>

Select one of the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>APMA 0160</td>
<td>Introduction to Scientific Computing (preferred)</td>
</tr>
<tr>
<td>CSCI 0040</td>
<td>Introduction to Scientific Computing and Problem Solving</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>
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</table>

Select one of the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<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 1650</td>
<td>Statistical Inference I</td>
</tr>
<tr>
<td>or APMA 1655</td>
<td>Statistical Inference I</td>
</tr>
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</table>

Select one of the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<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>Methods of Applied Mathematics</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>
<tr>
<td>APMA 1720</td>
<td>Monte Carlo Simulation with Applications to Finance</td>
</tr>
<tr>
<td>APMA 1740</td>
<td>Recent Applications of Probability and Statistics</td>
</tr>
<tr>
<td>MATH 1010</td>
<td>Analysis: Functions of One Variable</td>
</tr>
</tbody>
</table>

Economics Requirements:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 1130</td>
<td>Intermediate Microeconomics (Mathematical)</td>
</tr>
<tr>
<td>ECON 1210</td>
<td>Intermediate Macroeconomics</td>
</tr>
<tr>
<td>ECON 1630</td>
<td>Mathematical Econometrics I</td>
</tr>
<tr>
<td>Two 1000-level courses from the &quot;mathematical-economics&quot; group:</td>
<td></td>
</tr>
<tr>
<td>ECON 1170</td>
<td>Welfare Economics and Social Choice Theory</td>
</tr>
</tbody>
</table>

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
ECON 1225  Advanced Macroeconomics: Monetary, Fiscal, and Stabilization Policies
ECON 1460  Industrial Organization
ECON 1470  Bargaining Theory and Applications
ECON 1490  Designing Internet Marketplaces
ECON 1640  Mathematical Econometrics II
ECON 1660  Big Data
ECON 1670  Advanced Topics in Econometrics
ECON 1750  Investments II
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 1765  Finance, Regulation, and the Economy
ECON 1825  Behavioral Economics and Public Policy
ECON 1830  Behavioral Finance

One additional 1000-level economics course. 5

Select one of the following:

APMA 0160  Introduction to Scientific Computing (preferred)
CSCI 0040  Introduction to Scientific Computing and Problem Solving
CSCI 0111  Computing Foundations: Data
CSCI 0150  Introduction to Object-Oriented Programming and Computer Science
CSCI 0170  Computer Science: An Integrated Introduction

Select one of the following:

APMA 1200  Operations Research: Probabilistic Models
APMA 1210  Operations Research: Deterministic Models
APMA 1650  Statistical Inference I
or APMA 1655  Statistical Inference I

Select two of the following:

APMA 1200  Operations Research: Probabilistic Models
APMA 1210  Operations Research: Deterministic Models
APMA 1330  Methods of Applied Mathematics
APMA 1360  Applied Dynamical Systems
APMA 1660  Statistical Inference II
APMA 1690  Computational Probability and Statistics
APMA 1720  Monte Carlo Simulation with Applications to Finance
APMA 1740  Recent Applications of Probability and Statistics
MATH 1010  Analysis: Functions of One Variable

Economics Requirements:

ECON 1130  Intermediate Microeconomics (Mathematical) 3
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 1460  Industrial Organization
ECON 1470  Bargaining Theory and Applications
ECON 1490  Designing Internet Marketplaces
ECON 1640  Mathematical Econometrics II
ECON 1660  Big Data
ECON 1670  Advanced Topics in Econometrics
ECON 1750  Investments II
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

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>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 1375</td>
<td>Inequality of Opportunity in the US</td>
<td></td>
</tr>
<tr>
<td>ECON 1400</td>
<td>The Economics of Mass Media</td>
<td></td>
</tr>
<tr>
<td>ECON 1430</td>
<td>The Economics of Social Policy</td>
<td></td>
</tr>
<tr>
<td>ECON 1480</td>
<td>Public Economics</td>
<td></td>
</tr>
<tr>
<td>ECON 1510</td>
<td>Economic Development</td>
<td></td>
</tr>
<tr>
<td>ECON 1530</td>
<td>Health, Hunger and the Household in Developing Countries</td>
<td></td>
</tr>
<tr>
<td>ECON 1629</td>
<td>Applied Research Methods for Economists</td>
<td></td>
</tr>
<tr>
<td>ECON 1640</td>
<td>Mathematical Econometrics II</td>
<td></td>
</tr>
<tr>
<td>ECON 1660</td>
<td>Big Data</td>
<td></td>
</tr>
<tr>
<td>ECON 1765</td>
<td>Finance, Regulation, and the Economy</td>
<td></td>
</tr>
<tr>
<td>ECON 1825</td>
<td>Behavioral Economics and Public Policy</td>
<td></td>
</tr>
<tr>
<td>ECON 1830</td>
<td>Behavioral Finance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Two additional 1000-level economics courses</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Total Credits</td>
<td>16</td>
</tr>
</tbody>
</table>

1. No course may be used to simultaneously satisfy (a) and (b).
2. APMA 0330 and APMA 0340 may be substituted with advisor approval. APMA 1910 cannot be used as an elective.
3. Or ECON 1110 with permission.
4. No course may be used to simultaneously satisfy the "mathematical economics" and the "data methods" requirements.
5. Students may use either ECON 1070 or ECON 1090 toward the concentration, but not both. 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 (Mathematical Finance track):**

**Prerequisites:**
- MATH 0100 Introductory Calculus, Part II
- MATH 0520 Linear Algebra

**Course Requirements: 13 Courses: 6 Applied Math and 7 Economics**

**Applied Mathematics Requirements**

(a) APMA 0350 & APMA 0360 Applied Ordinary Differential Equations and Applied Partial Differential Equations I 2

Select one of the following:
- APMA 0160 Introduction to Scientific Computing (preferred)
- CSCI 0040 Introduction to Scientific Computing and Problem Solving
- CSCI 0111 Computing Foundations: Data
- CSCI 0150 Introduction to Object-Oriented Programming and Computer Science
- CSCI 0170 Computer Science: An Integrated Introduction
- APMA 1200 Operations Research: Probabilistic Models
- APMA 1650 Statistical Inference I
- or APMA 1655 Statistical Inference I

(b) Select one of the following: 1
- APMA 1180 Introduction to Numerical Solution of Differential Equations
- APMA 1210 Operations Research: Deterministic Models
- APMA 1330 Methods of Applied Mathematics
- APMA 1360 Applied Dynamical Systems
- APMA 1660 Statistical Inference II

**Economics Requirements:**

- ECON 1130 Intermediate Microeconomics (Mathematical) 1
- ECON 1210 Intermediate Macroeconomics 1
- ECON 1630 Mathematical Econometrics I 1
- 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 1765 Finance, Regulation, and the Economy
- ECON 1780 Advanced Topics in Corporate Finance
- ECON 1830 Behavioral Finance
- Select one 1000-level course from the "mathematical economics" group: 1
- ECON 1170 Welfare Economics and Social Choice Theory
- ECON 1225 Advanced Macroeconomics: Monetary, Fiscal, and Stabilization Policies
- ECON 1460 Industrial Organization
- ECON 1470 Bargaining Theory and Applications
- ECON 1490 Designing Internet Marketplaces
- ECON 1640 Mathematical Econometrics II
- ECON 1660 Big Data
- ECON 1670 Advanced Topics in Econometrics
- ECON 1750 Investments II
- 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
- ECON 1660 Big Data
- ECON 1765 Finance, Regulation, and the Economy

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>
</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>
</tbody>
</table>

**Total Credits:** 13

1. APMA 0330 and APMA 0340 may be substituted with advisor approval. APMA 1910 cannot be used as an elective.
2. No course may be used to simultaneously satisfy any two or more of the "financial economics," "mathematical economics," and "data methods" requirements.
3. Or ECON 1110 with permission.
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.

### Standard program for the Sc.B. degree

(Mathematical Finance track):

**Prerequisites:**
- MATH 0100 Introductory Calculus, Part II
- MATH 0520 Linear Algebra

**Course Requirements:** 16 courses: 7 Applied Math and 9 Economics

**Applied Mathematics requirements:**

(a)
- APMA 0350 and APMA 0360 Applied Ordinary Differential Equations and Applied Partial Differential Equations 2
- Select one of the following: 1
  - APMA 0160 Introduction to Scientific Computing (preferred)
  - CSCI 0040 Introduction to Scientific Computing and Problem Solving
  - CSCI 0111 Computing Foundations: Data
  - CSCI 0150 Introduction to Object-Oriented Programming and Computer Science
  - CSCI 0170 Computer Science: An Integrated Introduction

Select two of the following: 2
- APMA 1200 Operations Research: Probabilistic Models
- APMA 1650 Statistical Inference I
- or APMA 1655 Statistical Inference I

(b)
- APMA 1180 Introduction to Numerical Solution of Differential Equations
- APMA 1210 Operations Research: Deterministic Models
- APMA 1330 Methods of Applied Mathematics
- APMA 1360 Applied Dynamical Systems
- APMA 1660 Statistical Inference II
- APMA 1690 Computational Probability and Statistics
- APMA 1720 Monte Carlo Simulation with Applications to Finance (preferred)
- APMA 1740 Recent Applications of Probability and Statistics
- MATH 1010 Analysis: Functions of One Variable

**Economics Requirements:**
- ECON 1130 Intermediate Microeconomics (Mathematical) 1
- ECON 1210 Intermediate Macroeconomics 1
- ECON 1630 Mathematical Econometrics I 1

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 1765 Finance, Regulation, and the Economy
- ECON 1780 Advanced Topics in Corporate Finance
- ECON 1830 Behavioral Finance

Select two 1000-level courses from the "mathematical economics" group: 2
- ECON 1170 Welfare Economics and Social Choice Theory
- ECON 1225 Advanced Macroeconomics: Monetary, Fiscal, and Stabilization Policies
- ECON 1460 Industrial Organization
- ECON 1470 Bargaining Theory and Applications
- ECON 1490 Designing Internet Marketplaces
- ECON 1640 Mathematical Econometrics II
- ECON 1660 Big Data
- ECON 1670 Advanced Topics in Econometrics
- ECON 1750 Investments II
- 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
- ECON 1629 Applied Research Methods for Economists
- ECON 1640 Mathematical Econometrics II
- ECON 1660 Big Data
- ECON 1765 Finance, Regulation, and the Economy
- 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. APMA 1910 cannot be used as an elective.
2. No course may be used to simultaneously satisfy any two or more of the "financial economics," "mathematical economics," and "data methods" requirements.
3. Or ECON 1110 with permission.
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.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Honors and Capstone Requirement
Admission to candidacy for honors in the concentration is granted on the following basis: 3.7 GPA for Economics courses, and a 3.5 GPA overall.
To graduate with honors, a student must write an honors thesis in the senior year following the procedures specified by the concentration (see Economics Department website).

Professional Track
The requirements for the professional track include all those of the standard track, as well as the following:
Students must complete two two-to-four month full-time professional experiences, doing work that is related to their concentration programs. Such work is normally done within an industrial organization, but may also be at a university under the supervision of a faculty member.
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.

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:**

<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>
<tr>
<td>ARCH 0300</td>
<td>Art in Antiquity: An Introduction</td>
</tr>
<tr>
<td>ARCH 0520</td>
<td>Roman Archaeology and Art</td>
</tr>
<tr>
<td>ARCH 0360</td>
<td>East Meets West: Archaeology of Anatolia</td>
</tr>
</tbody>
</table>

**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:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARCH 0315</td>
<td>Heritage In and Out of Context: Museum and Archaeological Heritage</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
</tr>
<tr>
<td>-------------</td>
<td>------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>ARCH 1800</td>
<td>Contemporary Issues in Archaeological Theory</td>
</tr>
<tr>
<td>One ARCH course, of any level, that focuses on a part of the world OTHER than Mediterranean, Egyptian, or Near Eastern, for example:</td>
<td>1</td>
</tr>
<tr>
<td>ANTH 0066U</td>
<td>An Archaeology of Native American Art</td>
</tr>
<tr>
<td>ARCH 0160</td>
<td>Buried History, Hidden Wonders: Discovering East Asian Archaeology</td>
</tr>
<tr>
<td>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:</td>
<td>2</td>
</tr>
<tr>
<td>ARCH 1550</td>
<td>Who Owns the Classical Past?</td>
</tr>
<tr>
<td>ANTH 1720</td>
<td>The Human Skeleton</td>
</tr>
<tr>
<td>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.</td>
<td>2</td>
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</table>

**Classical Archaeology:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>One course in ancient Greek or Roman history, for example:</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>CLAS 1210</td>
<td>Mediterranean Culture Wars: Archaic Greek History, c. 1200 to 479 BC</td>
<td></td>
</tr>
<tr>
<td>CLAS 1220</td>
<td>The Fall of Empires and Rise of Kings: Greek History 478 to 323 BC</td>
<td></td>
</tr>
<tr>
<td>CLAS 1310</td>
<td>Roman History I: The Rise and Fall of an Imperial Republic</td>
<td></td>
</tr>
<tr>
<td>CLAS 1320</td>
<td>Roman History II: The Roman Empire and Its Impact</td>
<td></td>
</tr>
<tr>
<td>One course in either Ancient Greek or Latin, at a level beyond the first year of study, for example:</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>GREK 0300/0400</td>
<td>Introduction to Greek Literature</td>
<td></td>
</tr>
<tr>
<td>LATIN 0300/0400</td>
<td>Introduction to Latin Literature</td>
<td></td>
</tr>
<tr>
<td>Two courses in Mediterranean (prehistoric, Greek, Roman, medieval) archaeology and art, at the 1000 level (or above).</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>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:</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>ARCH 1490</td>
<td>The Archaeology of Central Asia: Alexander in Afghanistan, and Buddhas in Bactria</td>
<td></td>
</tr>
<tr>
<td>ARCH 1540</td>
<td>Cultural Heritage: The Players and Politics of Protecting the Past</td>
<td></td>
</tr>
<tr>
<td>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.</td>
<td>1</td>
<td></td>
</tr>
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</table>

**Egyptian and Near Eastern Archaeology:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two courses in Egyptian and Near Eastern archaeology and art at the 1000 level (or above).</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Two terms of course work in a pertinent ancient language (such as Akkadian, Coptic, Classical Hebrew, Middle Egyptian).</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARCH 0335</td>
<td>Archaeology of the Andes</td>
<td></td>
</tr>
<tr>
<td>ARCH 1170</td>
<td>Community Archaeology in Providence and Beyond</td>
<td></td>
</tr>
</tbody>
</table>

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. | 1       |

**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 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 not be taken S/N). 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

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For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
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 allows students to develop a broad understanding of the concepts and methods for the planning and design of buildings, landscapes, and cities. The concentration was planned with the explicit goal of connecting architectural training firmly with the humanities and providing a greater awareness of global, environmental, social and economic issues in the built environment. This approach to the education of architects and urban planners is meant to provide them with the tools needed in today's urban global society. Students who complete a specific track within the concentration will have the option of transitioning into a 2-year Masters of Architecture program at the Rhode Island School of Design or several other architecture schools.

**Concentration Requirements**

Two RISD double-credit Design Studios: Students will take the courses at the Rhode Island School of Design but will register at Brown.

- HIAA 0001 Architectural Design
- HIAA 0002 Advanced Design Studio

Six Core Requirements:

Select Four (4) courses from RISD: Students will take the courses at the Rhode Island School of Design but will register at Brown.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIAA 0003</td>
<td>Architectural Projection (alternative IntAR Intro to Drawing)</td>
</tr>
<tr>
<td>HIAA 0004</td>
<td>Architectural Analysis</td>
</tr>
<tr>
<td>HIAA 0005</td>
<td>Structural Analysis</td>
</tr>
<tr>
<td>HIAA 0006</td>
<td>Wood Structures</td>
</tr>
<tr>
<td>HIAA 0007</td>
<td>Environmental Design II</td>
</tr>
</tbody>
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Select Two (2) Courses from Brown:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIAA 0010</td>
<td>A Global History of Art and Architecture</td>
</tr>
<tr>
<td>HIAA 0042</td>
<td>Islamic Art and Architecture</td>
</tr>
<tr>
<td>HIAA 0081</td>
<td>Architecture of the House Through Space and Time</td>
</tr>
<tr>
<td>HIAA 0770</td>
<td>Architecture and Urbanism of Africa</td>
</tr>
<tr>
<td>HIAA 0850</td>
<td>Modern Architecture</td>
</tr>
</tbody>
</table>

**Six Additional Electives:**

- or HIAA 0860 Contemporary Architecture
- HIAA 0860 Contemporary Architecture
- HIAA 1181 Prefabrication and Architecture

**Two courses from History and Theory:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIAA 0070</td>
<td>Introduction to American Art: The 19th Century</td>
</tr>
<tr>
<td>HIAA 0081</td>
<td>Architecture of the House Through Space and Time</td>
</tr>
<tr>
<td>HIAA 0560</td>
<td>Constructing the Eternal City: Popes and Pilgrims in Early Modern Rome</td>
</tr>
<tr>
<td>HIAA 0770</td>
<td>Architecture and Urbanism of Africa</td>
</tr>
<tr>
<td>HIAA 0860</td>
<td>Contemporary Architecture</td>
</tr>
<tr>
<td>HIAA 1181</td>
<td>Prefabrication and Architecture</td>
</tr>
<tr>
<td>HIAA 1440B</td>
<td>Architecture of Solitude: The Medieval Monastery</td>
</tr>
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</table>

**Two Classes from Engineering and Design:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>ENGN 0030</td>
<td>Introduction to Engineering</td>
</tr>
<tr>
<td>ENGN 0040</td>
<td>Dynamics and Vibrations</td>
</tr>
<tr>
<td>ENGN 0310</td>
<td>Mechanics of Solids and Structures</td>
</tr>
<tr>
<td>ENGN 0930A</td>
<td>Appropriate Technology</td>
</tr>
<tr>
<td>ENGN 0930C</td>
<td>DesignStudio</td>
</tr>
<tr>
<td>ENGN 1000</td>
<td>Projects in Engineering Design I</td>
</tr>
<tr>
<td>ENGN 1300</td>
<td>Structural Analysis</td>
</tr>
<tr>
<td>ENGN 1380</td>
<td>Design of Civil Engineering Structures</td>
</tr>
<tr>
<td>ENGN 1930U</td>
<td>Renewable Energy Technologies</td>
</tr>
</tbody>
</table>

**Four Additional Electives from the following:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARCH 1900</td>
<td>The Archaeology of College Hill</td>
</tr>
<tr>
<td>COLT 1810H</td>
<td>Tales of Two Cities: Havana - Miami, San Juan - New York</td>
</tr>
<tr>
<td>ENGL 1760K</td>
<td>Reading New York</td>
</tr>
<tr>
<td>ENVS 0410</td>
<td>Environmental Stewardship</td>
</tr>
<tr>
<td>IAPA 1803E</td>
<td>Social Entrepreneurship</td>
</tr>
<tr>
<td>JAPN 0910B</td>
<td>Japanese Cities: Tokyo and Kyoto</td>
</tr>
<tr>
<td>LACA 1510I</td>
<td>Urban Latin America</td>
</tr>
<tr>
<td>POLS 0220</td>
<td>City Politics</td>
</tr>
<tr>
<td>POLS 1730</td>
<td>Politics of Globalization</td>
</tr>
<tr>
<td>SOC 1340</td>
<td>Principles and Methods of Geographic Information Systems</td>
</tr>
<tr>
<td>TAPS 0260</td>
<td>Stage Lighting</td>
</tr>
<tr>
<td>TAPS 1240</td>
<td>Performance Historiography and Theatre History</td>
</tr>
<tr>
<td>TAPS 1280F</td>
<td>Introduction to Set Design</td>
</tr>
<tr>
<td>TAPS 1300</td>
<td>Advanced Set Design</td>
</tr>
<tr>
<td>URBN 0210</td>
<td>The City: An Introduction to Urban Studies</td>
</tr>
<tr>
<td>URBN 1000</td>
<td>Fieldwork in the Urban Community</td>
</tr>
<tr>
<td>URBN 1870C</td>
<td>The Environment Built: Urban Environmental History and Urban Environmentalism for the 21st Century</td>
</tr>
<tr>
<td>VISA 0100</td>
<td>Studio Foundation</td>
</tr>
<tr>
<td>VISA 1210K</td>
<td>Digital Printmaking</td>
</tr>
<tr>
<td>VISA 1420</td>
<td>Sculpture II: Conceptual Proposition</td>
</tr>
</tbody>
</table>

**Total Credits:** 16

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

For students in the concentration who intend to go to architecture school afterwards, typically their design project in their double credit second RISD studio will be ideal for a capstone or honors project. For others, who might tend towards theory or history of architecture, an honors thesis is still a valid option.

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).

Prequisites

<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</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Quantum Physics</td>
<td></td>
</tr>
<tr>
<td>PHYS 0270</td>
<td>Astronomy and Astrophysics</td>
<td>1</td>
</tr>
<tr>
<td>MATH 0170 &amp;</td>
<td>Advanced Placement Calculus and</td>
<td>1</td>
</tr>
<tr>
<td>MATH 0180</td>
<td>Intermediate Calculus</td>
<td></td>
</tr>
<tr>
<td>MATH 0190 &amp;</td>
<td>Advanced Placement Calculus (Physics/</td>
<td>1</td>
</tr>
<tr>
<td>MATH 0200</td>
<td>Engineering)</td>
<td></td>
</tr>
<tr>
<td>MATH 0350</td>
<td>Honors Calculus (or equivalent)</td>
<td>1</td>
</tr>
<tr>
<td>PHYS 0470</td>
<td>Electricity and Magnetism</td>
<td>1</td>
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</tbody>
</table>

Program

Select one of the following mathematics courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>MATH 0520</td>
<td>Linear Algebra</td>
<td>1</td>
</tr>
<tr>
<td>MATH 0540</td>
<td>Honors Linear Algebra</td>
<td>1</td>
</tr>
<tr>
<td>PHYS 0720</td>
<td>Methods of Mathematical Physics</td>
<td>1</td>
</tr>
<tr>
<td>APMA 0330</td>
<td>Methods of Applied Mathematics I, II</td>
<td>1</td>
</tr>
<tr>
<td>APMA 0340</td>
<td>Methods of Applied Mathematics I, II</td>
<td>1</td>
</tr>
</tbody>
</table>

Select two of the following astrophysics courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>PHYS 1100</td>
<td>Introduction to General Relativity</td>
<td>1</td>
</tr>
<tr>
<td>PHYS 1250</td>
<td>Stellar Structure and the Interstellar</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Medium</td>
<td></td>
</tr>
<tr>
<td>PHYS 1270</td>
<td>Extragalactic Astronomy and High-Energy</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Astrophysics</td>
<td></td>
</tr>
<tr>
<td>PHYS 1280</td>
<td>Introduction to Cosmology</td>
<td>1</td>
</tr>
</tbody>
</table>

Three additional 1000- or 2000-level courses in physics or a related field, suggestions:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>APMA 1670</td>
<td>Statistical Analysis of Time Series</td>
<td>1</td>
</tr>
<tr>
<td>EEPS 0810</td>
<td>Planetary Geology</td>
<td>1</td>
</tr>
<tr>
<td>EEPS 1710</td>
<td>Remote Sensing of Earth and Planetary</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Surfaces</td>
<td></td>
</tr>
<tr>
<td>EEPS 1810</td>
<td>Physics of Planetary Evolution</td>
<td>1</td>
</tr>
<tr>
<td>ENGR 1860</td>
<td>Advanced Fluid Mechanics</td>
<td>1</td>
</tr>
<tr>
<td>MATH 1060</td>
<td>Differential Geometry</td>
<td>1</td>
</tr>
<tr>
<td>PHYS 0500</td>
<td>Advanced Classical Mechanics</td>
<td>1</td>
</tr>
<tr>
<td>PHYS 0560</td>
<td>Experiments in Modern Physics</td>
<td>1</td>
</tr>
<tr>
<td>PHYS 1410</td>
<td>Quantum Mechanics A</td>
<td>1</td>
</tr>
<tr>
<td>PHYS 1510</td>
<td>Advanced Electromagnetic Theory</td>
<td>1</td>
</tr>
</tbody>
</table>

PHYS 1530    | Thermodynamics and Statistical Mechanics | 1       |

PHYS 1560    | Modern Physics Laboratory                 | 16      |

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) is the concentration advisor. (David Yokum (david_yokum@brown.edu) or Steven Sloman (steven_sloman@brown.edu?subject=Behavioral Decision Sciences) will be acting concentration advisor from January 2020 to December 2020). 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>
</tbody>
</table>

Choose one of the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLPS 0400</td>
<td>Cognitive Neuroscience</td>
<td>1</td>
</tr>
<tr>
<td>CLPS 0200</td>
<td>Human Cognition</td>
<td>1</td>
</tr>
<tr>
<td>CLPS 0700</td>
<td>Social Psychology</td>
<td>1</td>
</tr>
</tbody>
</table>

Choose two of the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLPS 1470</td>
<td>Mechanisms of Motivated Decision Making</td>
<td>2</td>
</tr>
<tr>
<td>CLPS 1495</td>
<td>Affective Neuroscience</td>
<td>2</td>
</tr>
<tr>
<td>CLPS 1730</td>
<td>Psychology in Business and Economics</td>
<td>2</td>
</tr>
<tr>
<td>CLPS 1760</td>
<td>The Moral Brain</td>
<td>2</td>
</tr>
<tr>
<td>CLPS 0710</td>
<td>The Psychology and Philosophy of Happiness</td>
<td>2</td>
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Distribution Requirements:

Choose one Introductory Course from the following:

<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>CSCI 0040</td>
<td>Introduction to Scientific Computing and</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Problem Solving</td>
<td></td>
</tr>
<tr>
<td>or CSCI 0150</td>
<td>Introduction to Object-Oriented Programming and</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Computer Science</td>
<td></td>
</tr>
<tr>
<td>or CSCI 0170</td>
<td>Computer Science: An Integrated Introduction</td>
<td>1</td>
</tr>
<tr>
<td>or CSCI 0180</td>
<td>Computer Science: An Integrated Introduction</td>
<td>1</td>
</tr>
<tr>
<td>or CSCI 0190</td>
<td>Accelerated Introduction to Computer Science</td>
<td>1</td>
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</table>

Select Two Advanced Courses From:

<table>
<thead>
<tr>
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<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>CSCI 1410</td>
<td>Artificial Intelligence</td>
<td>2</td>
</tr>
<tr>
<td>CSCI 1420</td>
<td>Machine Learning</td>
<td>2</td>
</tr>
<tr>
<td>ECON 1110</td>
<td>Intermediate Microeconomics</td>
<td>2</td>
</tr>
<tr>
<td>or ECON 1130</td>
<td>Intermediate Microeconomics (Mathematical)</td>
<td>2</td>
</tr>
<tr>
<td>ECON 1660</td>
<td>Big Data</td>
<td>2</td>
</tr>
<tr>
<td>ECON 1820</td>
<td>Theory of Behavioral Economics</td>
<td>2</td>
</tr>
<tr>
<td>ECON 1870</td>
<td>Game Theory and Applications to Economics</td>
<td>2</td>
</tr>
<tr>
<td>PHIL 1550</td>
<td>Decision Theory: Foundations and Applications</td>
<td>2</td>
</tr>
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</table>

Methods Classes:

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Choose One From the Following: 1

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
<td>APMA 0650</td>
<td>Essential Statistics</td>
</tr>
<tr>
<td>APMA 1650</td>
<td>Statistical Inference I</td>
</tr>
<tr>
<td>CLPS 0900</td>
<td>Statistical Methods</td>
</tr>
<tr>
<td>CSCI 0100</td>
<td>Data Fluency for All</td>
</tr>
<tr>
<td>CSCI 1450</td>
<td>Probability for Computing and Data Analysis</td>
</tr>
<tr>
<td>ECON 1620</td>
<td>Introduction to Econometrics</td>
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Plus One of the Following: 1

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
<td>CLPS 1791</td>
<td>Laboratory in Social Cognition</td>
</tr>
<tr>
<td>CSCI 0150</td>
<td>Programming and Computer Science 1</td>
</tr>
<tr>
<td>CSCI 0170</td>
<td>Computer Science: An Integrated Introduction 1</td>
</tr>
<tr>
<td>ECON 1629</td>
<td>Applied Research Methods for Economists</td>
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<tr>
<td>ECON 1630</td>
<td>Mathematical Econometrics I</td>
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<tr>
<td>PHIL 0540</td>
<td>Logic</td>
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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**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLPS 0950</td>
<td>Introduction to Programming</td>
</tr>
<tr>
<td>CLPS 1292</td>
<td>Introduction to Programming for the Mind, Brain and Behavior</td>
</tr>
<tr>
<td>CLPS 1370</td>
<td>Pragmatics</td>
</tr>
<tr>
<td>CLPS 1970</td>
<td>Directed Reading in Cognitive, Linguistic and Psychological Sciences</td>
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</table>

**Economics:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<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>
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</table>

**Applied Mathematics:**

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<th>Title</th>
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<tr>
<td>APMA 0200</td>
<td>Introduction to Modelling</td>
</tr>
<tr>
<td>APMA 1690</td>
<td>Computational Probability and Statistics</td>
</tr>
<tr>
<td>APMA 2640</td>
<td>Theory of Probability II</td>
</tr>
<tr>
<td>APMA 2821V</td>
<td>Neural Dynamics: Theory and Modeling</td>
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**Philosophy:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
<td>PHIL 0500</td>
<td>Moral Philosophy</td>
</tr>
<tr>
<td>PHIL 1650</td>
<td>Moral Theories</td>
</tr>
<tr>
<td>PHIL 1750</td>
<td>Epistemology</td>
</tr>
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</table>

**Computer Science:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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</thead>
<tbody>
<tr>
<td>CSCI 1430</td>
<td>Computer Vision</td>
</tr>
<tr>
<td>CSCI 1460</td>
<td>Computational Linguistics</td>
</tr>
<tr>
<td>CSCI 1951A</td>
<td>Data Science</td>
</tr>
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</table>

**Political Science:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
<td>POLS 1090</td>
<td>Polarized Politics</td>
</tr>
<tr>
<td>POLS 1150</td>
<td>Prosperity: The Ethics and Economics of Wealth Creation</td>
</tr>
<tr>
<td>POLS 1470</td>
<td>International Negotiation and Conflict Resolution</td>
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**Public Health:**

<table>
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<tbody>
<tr>
<td>PHP 1740</td>
<td>Principles of Health Behavior and Health Promotion Interventions</td>
</tr>
</tbody>
</table>

**Capstone:** 1

Fall seminar in which students write an integrative paper or do a project covering their areas of study in their senior year.

**Total Credits:** 13

1 Students may not use the same course to satisfy both the Introductory and Methods course requirements.

Students will be expected to take no more than 6 courses below the 1000-level within the concentration. Students with multiple concentrations may not apply more than 2 courses from a second concentration to the AB in Behavioral Decision Sciences. No more than 2 courses can be transferred from another institution to count toward concentration credit.

**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. We encourage students to seek out a faculty mentor prior to semester 7 and to complete their methods courses and two of their three electives before semester 7. Please refer to the CLPS Honors Program page for detailed information about the specific requirements for the Honors Program in BDS.

**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. Students are expected to take courses that will count toward the concentration ABC/NC. Students should discuss the S/NC option with their concentration advisor if circumstances warrant consideration. Students should not register S/NC for a concentration course without advisor pre-approval.

Three courses in mathematics including two courses in

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 0090/0100 or MATH 0170/0180</td>
<td>with a third class in statistics, math, or computer science</td>
</tr>
</tbody>
</table>

Two courses in physics, typically: 2

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<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>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<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>
</tbody>
</table>

Three courses in physical and organic chemistry: 3

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 0330</td>
<td>Equilibrium, Rate, and Structure</td>
</tr>
<tr>
<td>CHEM 0350/0360</td>
<td>Organic Chemistry</td>
</tr>
<tr>
<td>or ENGN 0040</td>
<td>Dynamics and Vibrations</td>
</tr>
</tbody>
</table>

One course in biophysical or related chemistry, such as: 1

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 0500</td>
<td>Inorganic Chemistry</td>
</tr>
<tr>
<td>or ENGN 0040</td>
<td>Dynamics and Vibrations</td>
</tr>
</tbody>
</table>

Four courses in biochemistry: 4

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

**Chemistry Electives:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 0500</td>
<td>Inorganic Chemistry</td>
</tr>
<tr>
<td>CHEM 1140</td>
<td>Physical Chemistry: Quantum Chemistry</td>
</tr>
<tr>
<td>CHEM 1150</td>
<td>Physical Chemistry: Thermodynamics and Statistical Mechanics</td>
</tr>
<tr>
<td>CHEM 1220</td>
<td>Computational Tools in Biochemistry and Chemical Biology</td>
</tr>
<tr>
<td>CHEM 1230</td>
<td>Chemical Biology</td>
</tr>
<tr>
<td>CHEM 1240</td>
<td>Biochemistry</td>
</tr>
<tr>
<td>CHEM 1450</td>
<td>Advanced Organic Chemistry</td>
</tr>
<tr>
<td>CHEM 2420</td>
<td>Organic Reactions</td>
</tr>
</tbody>
</table>

**Computer Science Electives:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCI 0080</td>
<td>A First Byte of Computer Science</td>
</tr>
<tr>
<td>CSCI 0150</td>
<td>Introduction to Object-Oriented Programming and Computer Science</td>
</tr>
<tr>
<td>CSCI 0160</td>
<td>Introduction to Algorithms and Data Structures</td>
</tr>
<tr>
<td>CSCI 0170</td>
<td>Computer Science: An Integrated Introduction</td>
</tr>
<tr>
<td>CSCI 0180</td>
<td>Computer Science: An Integrated Introduction</td>
</tr>
<tr>
<td>CSCI 1810</td>
<td>Computational Molecular Biology</td>
</tr>
</tbody>
</table>

**Education Electives:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC 1110</td>
<td>Introductory Statistics for Education Research and Policy Analysis</td>
</tr>
</tbody>
</table>

**Engineering Electives:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGN 0410</td>
<td>Materials Science</td>
</tr>
</tbody>
</table>

**Neuroscience Electives:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEUR 0010</td>
<td>The Brain: An Introduction to Neuroscience</td>
</tr>
<tr>
<td>NEUR 0650</td>
<td>Biology of Hearing</td>
</tr>
<tr>
<td>NEUR 1020</td>
<td>Principles of Neurobiology</td>
</tr>
<tr>
<td>NEUR 1030</td>
<td>Neural Systems</td>
</tr>
<tr>
<td>NEUR 1040</td>
<td>Introduction to Neurogenetics</td>
</tr>
<tr>
<td>NEUR 1670</td>
<td>Neuropharmacology and Synaptic Transmission</td>
</tr>
<tr>
<td>NEUR 1740</td>
<td>The Diseased Brain: Mechanisms of Neurological and Psychiatric Disorders</td>
</tr>
</tbody>
</table>

**Physics Electives:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 0160</td>
<td>Introduction to Relativity, Waves and Quantum Physics</td>
</tr>
</tbody>
</table>

**Public Health Electives:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHP 1501</td>
<td>Essentials of Data Analysis</td>
</tr>
</tbody>
</table>

**Total Credits**

20

---

1. Note that the mathematics and physics requirements may be satisfied by Advanced Placement credit.
2. BIOL 0285 is required for the class of 2022 onward. Students in the classes of 2019-2021 are required to take only three courses in biochemistry yet may take BIOL 0285 as an elective.
3. Students in the classes of 2019-2021 are required to take six electives. The five elective requirement applies to the class of 2022 and after.
4. or any NEUR course in Cell, Genetics, Molecular Biology, or Development.

### Honors Requirements for Biochemistry

All ScB Biochemistry concentrators are candidates for Honors; no separate application is necessary.

The requirements for Honors in Biochemistry are:

- Undergraduate Concentrations
  - BIOL 0280 Biochemistry
  - BIOL 0285 Inquiry in Biochemistry: From Gene to Protein Function
- Plus two of three upper level biochemistry courses:
  - BIOL 1270 Advanced Biochemistry
  - or CHEM 1230 Chemical Biology
  - or CHEM 1240 Biochemistry
- Select two semester courses of independent research approved by a concentration advisor:
  - BIOL 1950/1960 Directed Research/Independent Study
  - or CHEM 0970/0980 Undergraduate Research
- **Suggested Elective Courses:**
  - Students are required to take five courses from the chart below or, with approval from a concentration advisor, from any science or mathematics course relevant to biochemistry, cell and molecular biology.
- **Applied Mathematics Electives:**
  - APMA 0330 Methods of Applied Mathematics I, II
  - APMA 0410 Mathematical Methods in the Brain Sciences
  - APMA 0650 Essential Statistics
- **Biology Electives:**
  - BIOL 0030 Principles of Nutrition
  - BIOL 0150D Techniques in Regenerative Medicine: Cells, Scaffolds and Staining
  - BIOL 0170 Biotechnology in Medicine
  - BIOL 0190R Phage Hunters, Part I
  - BIOL 0190S Phage Hunters, Part II
  - BIOL 0200 The Foundation of Living Systems
  - BIOL 0380 The Ecology and Evolution of Infectious Disease
  - BIOL 0415 Microbes in the Environment
  - BIOL 0440 Inquiry in Plant Biology: Analysis of Plant Growth, Reproduction and Adaptive Responses
  - BIOL 0470 Genetics
  - BIOL 0500 Cell and Molecular Biology
  - BIOL 0510 Introductory Microbiology
  - BIOL 0530 Principles of Immunology
  - BIOL 0800 Principles of Physiology
  - BIOL 1050 Biology of the Eukaryotic Cell
  - BIOL 1090 Polymer Science for Biomaterials
  - BIOL 1100 Cell Physiology and Biophysics
  - BIOL 1110 Topics in Signal Transduction
  - BIOL 1120 Biomaterials
  - BIOL 1150 Stem Cell Engineering
  - BIOL 1200 Protein Biophysics and Structure
  - BIOL 1210 Synthetic Biological Systems
  - BIOL 1260 Physiological Pharmacology
  - BIOL 1290 Cancer Biology
  - BIOL 1300 Biomolecular Interactions: Health, Disease and Drug Design
  - BIOL 1310 Developmental Biology
  - BIOL 1330 Biology of Reproduction
  - BIOL 1520 Innate Immunity
  - BIOL 1540 Molecular Genetics
  - BIOL 1560 Virology
  - BIOL 1600 Development of Vaccines to Infectious Diseases
  - BIOL 2110 Drug and Gene Delivery

For up-to-date course information please visit [Courses@Brown.edu](https://cab.brown.edu).
A strong grade record in concentration courses. This means a grade point average for the concentration that is higher than 3.25.

Two semesters of Independent Study (CHEM 0970, 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 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.

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:

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 0330</td>
<td>Equilibrium, Rate, and Structure</td>
</tr>
<tr>
<td>CHEM 0350</td>
<td>Organic Chemistry</td>
</tr>
<tr>
<td>MATH 0090</td>
<td>Introductory Calculus, Part I (or placement, MATH 0050/MATH 0060 may be substituted for MATH 0090.)</td>
</tr>
</tbody>
</table>

One of the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 0100</td>
<td>Introductory Calculus, Part II (or placement)</td>
</tr>
<tr>
<td>MATH 0170</td>
<td>Advanced Placement Calculus (or equivalent placement)</td>
</tr>
</tbody>
</table>

Or a statistics course, to be approved by the concentration advisor.

Ten Core Courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 0200</td>
<td>The Foundation of Living Systems</td>
</tr>
</tbody>
</table>

(Required course; AP credit or similar IB or A-levels accepted, placement test available.)

Area 1 (Cell/Molecular Biology)

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 0280</td>
<td>Biochemistry</td>
</tr>
<tr>
<td>BIOL 0470</td>
<td>Genetics</td>
</tr>
<tr>
<td>BIOL 0500</td>
<td>Cell and Molecular Biology</td>
</tr>
<tr>
<td>BIOL 0510</td>
<td>Introductory Microbiology</td>
</tr>
<tr>
<td>BIOL 0530</td>
<td>Principles of Immunology</td>
</tr>
<tr>
<td>BIOL 1050</td>
<td>Biology of the Eukaryotic Cell</td>
</tr>
</tbody>
</table>

Area 2 (Structure/Function)

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 1310</td>
<td>Developmental Biology</td>
</tr>
<tr>
<td>BIOL 1515</td>
<td>Conservation in the Genomics Age</td>
</tr>
<tr>
<td>BIOL 1810</td>
<td>21st Century Applications in Cell and Molecular Biology</td>
</tr>
<tr>
<td>BIOL 1865</td>
<td>Toxicology</td>
</tr>
<tr>
<td>NEUR 1020</td>
<td>Principles of Neurobiology</td>
</tr>
</tbody>
</table>

Area 3 (Organismal Biology)

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 0400</td>
<td>Biological Design: Structural Architecture of Organisms</td>
</tr>
<tr>
<td>BIOL 0410</td>
<td>Invertebrate Zoology</td>
</tr>
<tr>
<td>BIOL 0440</td>
<td>Inquiry in Plant Biology: Analysis of Plant Growth, Reproduction and Adaptive Responses</td>
</tr>
<tr>
<td>BIOL 0800</td>
<td>Principles of Physiology</td>
</tr>
<tr>
<td>BIOL 1120</td>
<td>Biomaterials</td>
</tr>
<tr>
<td>BIOL 1155</td>
<td>Hormones and Behavior</td>
</tr>
<tr>
<td>BIOL 1310</td>
<td>Developmental Biology</td>
</tr>
<tr>
<td>BIOL 1330</td>
<td>Biology of Reproduction</td>
</tr>
<tr>
<td>BIOL 1800</td>
<td>Animal Locomotion</td>
</tr>
<tr>
<td>BIOL 1865</td>
<td>Toxicology</td>
</tr>
<tr>
<td>BIOL 1880</td>
<td>Comparative Biology of the Vertebrates</td>
</tr>
<tr>
<td>NEUR 0010</td>
<td>The Brain: An Introduction to Neuroscience</td>
</tr>
</tbody>
</table>

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, 1575, 1600, 1820, 1970A.
2. One semester of independent research/independent study (BIOL 1950 or BIOL 1960).
3. A senior Honors thesis in Biology; Students can register for BIOL 1950 or BIOL 1960 or both.

Please visit the BUE webpage for more information.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
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. 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, this can count for one of the three lab course requirements, and one advanced course.

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/.

**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: Organismal 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 in Geological Sciences may replace CHEM 0360. For students pursuing the 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.


**Prerequisites**: 1

- **MATH 0090**: Introductory Calculus, Part I (or placement, MATH 0050/MATH 0060 may be substituted for MATH 0090)

One of the following:

- **MATH 0100**: Introductory Calculus, Part II (or placement)
- **MATH 0170**: Advanced Placement Calculus (or an equivalent placement)

Or a statistics course, to be approved by the concentration advisor.

- **CHEM 0330**: Equilibrium, Rate, and Structure (or IB credit)
- **CHEM 0350**: Organic Chemistry
- **CHEM 0360** or **BIOL 0280**: Organic Chemistry

**BIOL 0030**: Basic Physics A (or equivalent. PHYS 0050 PHYS 0070, or ENGN 0030 may be substituted for PHYS 0030.)

**BIOL 0040**: Basic Physics B (or equivalent. PHYS 0060 or ENGN 0040 may be substituted for PHYS 0040.)

**Core Courses**: 2,3,4

**Area 1 (Cell/Molecular Biology)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 0280</td>
<td>Biochemistry</td>
</tr>
<tr>
<td>BIOL 0470</td>
<td>Genetics</td>
</tr>
<tr>
<td>BIOL 0500</td>
<td>Cell and Molecular Biology</td>
</tr>
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</table>

**Area 2 (Structure/Function)**

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<tbody>
<tr>
<td>BIOL 0400</td>
<td>Biological Design: Structural Architecture of Organisms</td>
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<td>Invertebrate Zoology</td>
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<tr>
<td>BIOL 0440</td>
<td>Inquiry in Plant Biology: Analysis of Plant Growth, Reproduction and Adaptive Responses</td>
</tr>
<tr>
<td>BIOL 0800</td>
<td>Principles of Physiology</td>
</tr>
<tr>
<td>BIOL 1120</td>
<td>Biomaterials</td>
</tr>
<tr>
<td>BIOL 1155</td>
<td>Hormones and Behavior</td>
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<td>Toxicology</td>
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<td>BIOL 1880</td>
<td>Comparative Biology of the Vertebrates</td>
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<td>NEUR 0010</td>
<td>The Brain: An Introduction to Neuroscience</td>
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</tbody>
</table>

**Area 3 (Organismal Biology)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 0210</td>
<td>Diversity of Life</td>
</tr>
<tr>
<td>BIOL 0350</td>
<td>The Fossil Record: Life through Time on Earth</td>
</tr>
<tr>
<td>BIOL 0380</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>
</tr>
<tr>
<td>BIOL 0430</td>
<td>The Evolution of Plant Diversity</td>
</tr>
<tr>
<td>BIOL 0480</td>
<td>Evolutionary Biology</td>
</tr>
<tr>
<td>BIOL 1480</td>
<td>Terrestrial Biogeochemistry and the Functioning of Ecosystems</td>
</tr>
<tr>
<td>BIOL 1515</td>
<td>Conservation in the Genomics Age</td>
</tr>
<tr>
<td>BIOL 1800</td>
<td>Animal Locomotion</td>
</tr>
<tr>
<td>BIOL 1880</td>
<td>Comparative Biology of the Vertebrates</td>
</tr>
<tr>
<td>ENVS 0490</td>
<td>Environmental Science in a Changing World</td>
</tr>
</tbody>
</table>

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 research. 5

**RESEARCH**: 5

Typically, two courses in Core are advanced level research (BIOL 1950,1960).

**TRACK**: 6

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
The advanced thematic track consists of three additional biological sciences courses (not including BIOL 1950/1960 research) that form a Track. Tracks include: Immuno/Pathobiology; Ecology and Evolutionary Biology; Physiology and Biotechnology; Neurobiology; Physical Sciences; Marine Biology; 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 group approved by an advisor and/or Associate Dean of Biology, Katherine Smith. Biomedical Informatics - BIOL 1565 is required for this track along with 2 additional courses from the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 1555</td>
<td>Methods in Informatics and Data Science for Health</td>
</tr>
<tr>
<td>BIOL 1575</td>
<td>Evaluation of Health Information Systems</td>
</tr>
<tr>
<td>BIOL 1595</td>
<td>Artificial Intelligence in Biomedicine</td>
</tr>
</tbody>
</table>

### Cell and Molecular Biology

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 1050</td>
<td>Biology of the Eukaryotic Cell</td>
</tr>
<tr>
<td>BIOL 1270</td>
<td>Advanced Biochemistry</td>
</tr>
<tr>
<td>BIOL 1300</td>
<td>Biomolecular Interactions: Health, Disease and Drug Design</td>
</tr>
<tr>
<td>BIOL 1310</td>
<td>Developmental Biology</td>
</tr>
<tr>
<td>BIOL 1330</td>
<td>Biology of Reproduction</td>
</tr>
<tr>
<td>BIOL 1540</td>
<td>Molecular Genetics</td>
</tr>
<tr>
<td>BIOL 1545</td>
<td>Human Genetics and Genomics</td>
</tr>
<tr>
<td>BIOL 1810</td>
<td>21st Century Applications in Cell and Molecular Biology</td>
</tr>
<tr>
<td>BIOL 1970A</td>
<td>Stem Cell Biology</td>
</tr>
</tbody>
</table>

### Ecology and Evolutionary Biology

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 1420</td>
<td>Experimental Design in Ecology</td>
</tr>
<tr>
<td>BIOL 1430</td>
<td>Population Genetics</td>
</tr>
<tr>
<td>BIOL 1435</td>
<td>Computational Methods for Studying Demographic History with Molecular Data</td>
</tr>
<tr>
<td>BIOL 1440</td>
<td>Marine Biology</td>
</tr>
<tr>
<td>BIOL 1450</td>
<td>Community Ecology</td>
</tr>
<tr>
<td>BIOL 1465</td>
<td>Human Population Genomics</td>
</tr>
<tr>
<td>BIOL 1470</td>
<td>Conservation Biology</td>
</tr>
<tr>
<td>BIOL 1475</td>
<td>Biogeography</td>
</tr>
<tr>
<td>BIOL 1480</td>
<td>Terrestrial Biogeochemistry and the Functioning of Ecosystems</td>
</tr>
<tr>
<td>BIOL 1495</td>
<td>500 Million Years of Land Plants</td>
</tr>
<tr>
<td>BIOL 1515</td>
<td>Conservation in the Genomics Age</td>
</tr>
<tr>
<td>BIOL 1800</td>
<td>Animal Locomotion</td>
</tr>
<tr>
<td>BIOL 1880</td>
<td>Comparative Biology of the Vertebrates</td>
</tr>
</tbody>
</table>

### Immunobiology

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<th>Description</th>
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<tr>
<td>BIOL 1250</td>
<td>Host-microbiome Interactions in Health and Disease</td>
</tr>
<tr>
<td>BIOL 1290</td>
<td>Cancer Biology</td>
</tr>
<tr>
<td>BIOL 1520</td>
<td>Innate Immunity</td>
</tr>
<tr>
<td>BIOL 1550</td>
<td>Biology of Emerging Microbial Diseases</td>
</tr>
<tr>
<td>BIOL 1560</td>
<td>Virology</td>
</tr>
<tr>
<td>BIOL 1600</td>
<td>Development of Vaccines to Infectious Diseases</td>
</tr>
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### Marine Biology

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<tr>
<td>BIOL 1440</td>
<td>Marine Biology</td>
</tr>
<tr>
<td>GEOL (EEPS)</td>
<td>listings 1000 level or above. Must be a coherent set of courses that are above the introductory level and approved by advisor</td>
</tr>
</tbody>
</table>

### Neurobiology

<table>
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<tr>
<th>Course</th>
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</thead>
<tbody>
<tr>
<td>BIOL 1100</td>
<td>Cell Physiology and Biophysics</td>
</tr>
<tr>
<td>BIOL 1110</td>
<td>Topics in Signal Transduction</td>
</tr>
<tr>
<td>BIOL 1190</td>
<td>Synaptic Transmission and Plasticity</td>
</tr>
<tr>
<td>BIOL 1260</td>
<td>Physiological Pharmacology</td>
</tr>
</tbody>
</table>

### Stipulations for Biology Programs:

1. For double concentrations, no more than two courses may overlap (i.e., be used to meet requirements of both programs). This includes prerequisite courses.
2. No more than two semesters of directed research may be used as concentration credits. Each does count as an individual core 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, Katherine Smith.

### 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. The education objectives of the Biomedical Engineering program are to prepare graduates: (1) to be employed in careers of useful service to society, including scientific and technical areas within medicine, industry, and health care delivery; (2) to demonstrate the ability to apply the basic principles of engineering and science, as well as problem solving skills and critical thinking, to a broad spectrum of biomedical engineering problems; (3) to demonstrate their ability to work in teams, and to effectively communicate and understand the broad social, ethical, economic and environmental consequences of their lifelong education. 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 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
   - ENGN 0030 Introduction to Engineering 1
   - or ENGN 0031 Honors Introduction to Engineering
   - ENGN 0040 Dynamics and Vibrations 1
   - ENGN 0510 Electricity and Magnetism 1
   - or ENGN 0520 Electrical Circuits and Signals
   - ENGN 0720 Thermodynamics 1
   - ENGN 0810 Fluid Mechanics 1
   - CHEM 0330 Equilibrium, Rate, and Structure 1
   - CHEM 0350 Organic Chemistry 1
   - MATH 0190 Advanced Placement Calculus (Physics/Engineering) 1
   - or MATH 0170 Advanced Placement Calculus
   - or MATH 0100 Introductory Calculus, Part II
   - MATH 0200 Intermediate Calculus (Physics/Engineering) 1
   - or MATH 0180 Intermediate Calculus
   - or MATH 0350 Honors Calculus
   - APMA 0330 Methods of Applied Mathematics I, II 1
   - or APMA 0350 Applied Ordinary Differential Equations
   - APMA 1650 Statistical Inference 1
   - or APMA 0650 Essential Statistics
   - or BIOL 0200 The Foundation of Living Systems

2. Upper Level Biomedical Engineering Curriculum
   - ENGN 1110 Transport and Biotransport Processes 1
   - ENGN 1210 Biomechanics 1
   - ENGN 1230 Instrumentation Design 1
   - ENGN 1490 Biomaterials 1
   - BIOL 0800 Principles of Physiology 1

3. Additional Biomedical Engineering Electives (Complete at least 3 courses from the following groups):
   - ENGN 1220 Neuroengineering
   - ENGN 1510 Nanoelectronics and Nanomedicine
   - ENGN 1520 Cardiovascular Engineering
   - ENGN 1930B Biomedical Optics
   - ENGN 1931K Cell-Material Interactions in Tissue Engineering
   - BIOL 1140 Tissue Engineering
   - ENGN 2910S Cancer Nanotechnology
   - ENGN 2912R Implantable Devices
   - CSCI 1820 Algorithmic Foundations of Computational Biology
   - ENGN 2911R Analytical Modeling for Biomechanical and Biomedical Systems

4. Capstone Design
   - ENGN 1930L Biomedical Engineering Design and Innovation 1
   - ENGN 1931L Biomedical Engineering Design and Innovation II 1

5. General Education Requirement: At least four approved courses must be taken in the humanities and social sciences.

Total Credits 21

1. If BIOL 0200 is counted, a statistics module must be completed in ENGN 1930L or other courses
2. In some cases, Independent Study may be substituted subject to Concentration Advisor approval

Biophysics

Biophysics is a quantitative science that requires a significant level of competence in physics, chemistry, mathematics, and biology. These areas therefore form the required background coursework for this program, and serve as a springboard to an advanced focus, developed in consultation with a concentration advisor. Advanced foci may include structure-function relations of macromolecules, biomechanics of cell cytoskeleton, biotechnology for drug and gene delivery, molecular mechanisms of membrane transport, sensory signal transduction, for examples. The program also requires a capstone research project that reflects this focus and may be drawn from collaborative research opportunities offered by faculty in biology, chemistry, or physics departments.

Additional detailed information about the field of Biophysics may be found at: http://www.biophysics.org/AboutUs/Biophysics/tabid/517/Default.aspx.

Standard program for the Sc.B. degree

Requirements

Select one of the following Series:

- PHYS 0050 Foundations of Mechanics
- PHYS 0059 and Foundations of Electromagnetism and Modern Physics
- PHYS 0070 Analytical Mechanics
- PHYS 0079 and Introduction to Relativity, Waves and Quantum Physics
- PHYS 0470 Electricity and Magnetism 1
- CHEM 0330 Equilibrium, Rate, and Structure 1

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
CHEM 0350  Organic Chemistry  1
CHEM 0360  Organic Chemistry  1
Select one of the following:  1
CHEM 0400  Biophysical and Bioinorganic Chemistry
CHEM 1140  Physical Chemistry: Quantum Chemistry
PHYS 1530  Thermodynamics and Statistical Mechanics
PHYS 1610  Biological Physics
MATH 0100  Introductory Calculus, Part II (or equivalent)  1
MATH 0180  Intermediate Calculus (or equivalent)  1
BIOL 0200  The Foundation of Living Systems  1
Select two additional biology courses chosen with approval of the advisor. Examples include courses in:

**Cell Biology**
- BIOL 0500  Cell and Molecular Biology
- BIOL 1050  Biology of the Eukaryotic Cell
- BIOL 1200  Protein Biophysics and Structure

**Physiology**
- BIOL 0800  Principles of Physiology
- BIOL 1100  Cell Physiology and Biophysics
- BIOL 1190  Synaptic Transmission and Plasticity
- NEUR 1020  Principles of Neurobiology

**Pharmacology**
- BIOL 1260  Physiological Pharmacology

**Biotechnology**
- BIOL 1090  Polymer Science for Biomaterials
- BIOL 1120  Biomaterials
- BIOL 1140  Tissue Engineering

Select six additional intermediate or advanced level courses, chosen from biology (e.g., biochemistry, genetics, physiology, physics, chemistry, and/or computer sciences and mathematics). Examples include:

**Biology**
- BIOL 0280  Biochemistry
- BIOL 0470  Genetics
- BIOL 0800  Principles of Physiology
- BIOL 1190  Synaptic Transmission and Plasticity

**Physics**
- PHYS 0500  Advanced Classical Mechanics
- PHYS 0560  Experiments in Modern Physics
- PHYS 1410  Quantum Mechanics A
- PHYS 1420  Quantum Mechanics B
- PHYS 1610  Biological Physics

**Mathematics**
- MATH 0520  Linear Algebra

**Applied Mathematics**
- APMA 0330  Methods of Applied Mathematics I, II
- APMA 0340  Methods of Applied Mathematics I, II
- APMA 0350  Applied Ordinary Differential Equations
- APMA 0360  Applied Partial Differential Equations I

**Chemistry**
- CHEM 1230  Chemical Biology
- CHEM 1450  Advanced Organic Chemistry

A course from the CHEM 1560 series.

Select at least one semester (two are recommended) of Directed Research

**Biology**
- BIOL 1950/1960  Directed Research/Independent Study

**Chemistry**

```
Total Credits  19
```

### Business, Entrepreneurship and Organizations

Business, Entrepreneurship and Organizations (BEO) is a multidisciplinary concentration that provides a rigorous and synergistic program in the study of commercial activity grounded in economics, sociology and technology. BEO focuses on the formation, growth, and organization of new ventures, innovation in commercial applications, financial markets and the marketplace; and management and organizational theory. Concentrators seek to understand the basic principles, approaches and vocabulary relevant to the study of entrepreneurship from the disciplines of economics, organizational sociology and technology. Building on this multidisciplinary base, students develop specialized expertise in one of the three disciplinary approaches, with special emphasis on critical 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 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)

- **ECON 0110**  Principles of Economics  1
- **ECON 1110**  Intermediate Microeconomics  1

Any two of the following three courses:  2

- **SOC 0300**  Organizations and Society
- **SOC 1311**  Micro-Organizational Theory: Social Behavior in Organizations
- **SOC 1315**  Macro-Organizational Theory: Organizations in Social Context

- **ENGN 0020**  Transforming Society-Technology and Choices for the Future  1
- or **ENGN 0030**  Introduction to Engineering  1
- or **ENGN 1010**  The Entrepreneurial Process: Innovation in Practice  1

**Math and Statistics Requirements**

- **MATH 0100**  Introductory Calculus, Part II  1
- or **MATH 0170**  Advanced Placement Calculus
- or **ECON 0170**  Essential Mathematics for Economics
- Or AP BC Calculus score of 4 or higher
- Or IB High-level Math minimum score of 5 (IB Standard-level not accepted)

**ECON 1620**  Introduction to Econometrics  1

#### Track Requirements

- **ECON 0710**  Financial Accounting  1
- **ECON 1210**  Intermediate Macroeconomics  1

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For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
## 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>
</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>ENGR 0020</td>
<td>Transforming Society-Technology and Choices for the Future</td>
<td>1</td>
</tr>
<tr>
<td>or ENGR 0030</td>
<td>Introduction to Engineering</td>
<td></td>
</tr>
<tr>
<td>ENGR 1010</td>
<td>The Entrepreneurial Process: Innovation in Practice</td>
<td>1</td>
</tr>
</tbody>
</table>

Any two of the following three courses:

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<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOC 0300</td>
<td>Organizations and Society</td>
<td></td>
</tr>
<tr>
<td>SOC 1311</td>
<td>Micro-Organizational Theory: Social Behavior in Organizations</td>
<td></td>
</tr>
<tr>
<td>SOC 1315</td>
<td>Macro-Organizational Theory: Organizations in Social Context</td>
<td></td>
</tr>
</tbody>
</table>

**Math and Statistics Requirements**

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>MATH 0100</td>
<td>Introductory Calculus, Part II</td>
<td>1</td>
</tr>
<tr>
<td>or MATH 0170</td>
<td>Advanced Placement Calculus</td>
<td></td>
</tr>
<tr>
<td>or ECON 0170</td>
<td>Essential Mathematics for Economics</td>
<td></td>
</tr>
<tr>
<td>or AP BC Calculus with a score of 4 or higher</td>
<td></td>
<td></td>
</tr>
<tr>
<td>or IB High-level Math with a minimum score of 5 (IB Standard-level is not accepted)</td>
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<tr>
<th>Course Code</th>
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</thead>
<tbody>
<tr>
<td>SOC 1100</td>
<td>Introductory Statistics for Social Research</td>
<td>1</td>
</tr>
<tr>
<td>or APMA 0650</td>
<td>Essential Statistics</td>
<td></td>
</tr>
<tr>
<td>or ECON 1620</td>
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<td></td>
</tr>
</tbody>
</table>

**Track Requirements**

One Introduction to Research Methods course (selected from the following):

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</tr>
</thead>
<tbody>
<tr>
<td>SOC 1020</td>
<td>Methods of Social Research</td>
<td>1</td>
</tr>
</tbody>
</table>

Two Organization-Relevant Electives (OREs) 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/Brown.edu/BEO website for current offerings:

ORE courses allow students to deepen and/or broaden their exposure to topics and settings that are either strongly determined by, or strongly determined of, organizational activities and outcomes. An ORE course will have a clear linkage to commerce, organizations and/or entrepreneurship, and it will incorporate organizational phenomena and perspectives in a significant portion of its coursework.

Any from the Advanced Research Methods or Advanced Organization-Studies lists; or

- CLPS 1250 Human Factors
- CSCI 1900 csciStartup
- ECON 1760 Financial Institutions
- EDUC 1020 The History of American Education
- EDUC 1040 Sociology of Education
- EDUC 1060 Politics and Public Education

**Math and Statistics Requirements**

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</table>

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
### Market Research in Public and Private Sectors

### Principles and Methods of Geographic Information Systems

### Capstone: two-semesters required

1. **BEO 1930A & BEO 1940A**
   - BEO Capstone I: Organizational Studies Track
   - and BEO Capstone II: Organizational Studies Track

**Total Credits**: 15

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### Entrepreneurship and Technology Management Track

#### Foundation Requirements (foundation requirements must be completed before taking the capstone in fall of senior year)

1. **ECON 0110** Principles of Economics
2. **ECON 1110** Intermediate Microeconomics
3. Any two of the following three courses:
   1. **SOC 0300** Organizations and Society
   2. **SOC 1311** Micro-Organizational Theory: Social Behavior in Organizations
   3. **SOC 1315** Macro-Organizational Theory: Organizations in Social Context
4. **ENGN 0030** Introduction to Engineering
5. **ENGN 1010** The Entrepreneurial Process: Innovation in Practice

#### Math and Statistics Requirements

1. **MATH 0190** Advanced Placement Calculus (Physics/Engineering)
   - or APMA 0330 Methods of Applied Mathematics I, II
2. **SOC 1100** Introductory Statistics for Social Research
   - or APMA 0650 Essential Statistics
   - or ECON 1620 Introduction to Econometrics

#### Track Requirements

1. One gateway course in Engineering or another physical science
2. Five courses that develop expertise in a technical subfield
3. Capstone: two-semesters required (must be taken in fall and spring of senior year)

**Total Credits**: 16

---

### 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:

- **CHEM 0330** Equilibrium, Rate, and Structure
- **CHEM 0350** Organic Chemistry
- **CHEM 0500** Inorganic Chemistry
- **CHEM 1140** Physical Chemistry: Quantum Chemistry
- **PHYS 0070** Analytical Mechanics
- **PHYS 0160** Introduction to Relativity, Waves and Quantum Physics
- **PHYS 0470** Electricity and Magnetism

Select one of the following laboratory courses:

- **CHEM 1160** Physical Chemistry Laboratory
- **PHYS 0560** Experiments in Modern Physics
- **PHYS 1560** Modern Physics Laboratory

Select one course in statistical mechanics:

- **PHYS 1530** Thermodynamics and Statistical Mechanics

Select one of the following courses:

- **MATH 0190** Advanced Placement Calculus (Physics/Engineering)
- **MATH 0200** Intermediate Calculus (Physics/Engineering)
- **MATH 0520** Linear Algebra

Seven courses, primarily at the 1000 or 2000 level, in chemistry or physics.

Select two semesters of independent study:

- **CHEM 0970/0980** Undergraduate Research
- **PHYS 1990** Senior Conference Course

**Total Credits**: 21

---

### Honors Requirements for Chemical Physics

All ScB Chemical Physics concentrators who complete the following requirements are candidates for Honors; no separate application is necessary.

- A strong grade record in concentration courses. This means a grade point average for the concentration that is higher than 3.50.
- Two semesters of Independent Study (CHEM 0970, CHEM 0980, PHYS 1990 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 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.
- A Poster presentation at the chemistry department's spring undergraduate poster session.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
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 one-on-one or in small groups 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 each area. Students seeking the Sc.B. may also pursue the A.B. degree in Chemistry, which provides a core education in the discipline.

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</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 0360</td>
<td>Organic Chemistry</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 0500</td>
<td>Inorganic Chemistry</td>
<td>1</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>
<tr>
<td>Total Credits</td>
<td></td>
<td>9</td>
</tr>
</tbody>
</table>

1. Note that the physical chemistry courses (CHEM 1140, CHEM 1150, CHEM 1160) have mathematics and physics prerequisites.
2. At least one must be a chemistry course. BIOL 0280 is credited as a chemistry elective for chemistry concentration purposes. Non CHEM electives are 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 the 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 tracks for the Sc.B. Chemistry Concentration – a Chemistry track, 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. The expectation is that courses required for the concentration will be taken for a letter grade.

Concentrating in Chemistry – Three tracks

The required/recommended courses for the three tracks are given below.

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</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 0360</td>
<td>Organic Chemistry</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 0500</td>
<td>Inorganic Chemistry</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 0970</td>
<td>Undergraduate Research</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 0980</td>
<td>Undergraduate Research</td>
<td>1</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>
<tr>
<td>MATH 0180 or equivalent</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Two Physics courses</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Total Credits</td>
<td></td>
<td>19</td>
</tr>
</tbody>
</table>

1. BIOL 0280 is credited as a chemistry elective for the chemistry concentration. Non CHEM electives are 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 the Concentration Advisor to craft a course of study that is appropriate for your interests.
2. For students with a 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.

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</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 0360</td>
<td>Organic Chemistry</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 0500</td>
<td>Inorganic Chemistry</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 0970</td>
<td>Undergraduate Research</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 0980</td>
<td>Undergraduate Research</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 1060</td>
<td>Advanced Inorganic Chemistry</td>
<td>2</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 1700</td>
<td>Nanoscale Materials: Synthesis and Applications</td>
<td>1</td>
</tr>
<tr>
<td>MATH 0180 or equivalent</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Two Physics courses</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>One of the following courses</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>BIOL 1090</td>
<td>Polymer Science for Biomaterials (or)</td>
<td></td>
</tr>
<tr>
<td>BIOL 1120/</td>
<td>Biomedicalal (or)</td>
<td></td>
</tr>
<tr>
<td>BIOL 1140</td>
<td>Tissue Engineering (or)</td>
<td></td>
</tr>
<tr>
<td>ENGN 1470</td>
<td>Structure &amp; Properties of Nonmetallic Materials (or)</td>
<td></td>
</tr>
<tr>
<td>ENGN 1490</td>
<td>Biomedicalal (or)</td>
<td></td>
</tr>
<tr>
<td>Five electives, at least two must be chemistry courses</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Total Credits</td>
<td></td>
<td>19</td>
</tr>
</tbody>
</table>

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Greek Literature Survey to 450 BCE

The Fall of Empires and Rise of Kings:

require the satisfactory completion of nine courses as described below. Except “Greek and Latin,” “Greek and Sanskrit,” and “Latin and Sanskrit” beginning with declarations submitted after September 1, 2018, all tracks: Greek, Latin, Greek and Latin, South Asian Classics, Sanskrit, concentration – the most popular choice – or one of several optional tracks: Greek, Latin, Sanskrit, or related areas to be approved by the Department of Classics.

Honors Requirements for Chemistry

All ScB Chemistry concentrators, and any AB concentrator who completes the following requirements, are candidates for Honors; no separate application is necessary.

The requirements for Honors in Chemistry are:

A strong grade record in concentration courses. This means a grade point average for the concentration that is higher than 3.50.

Two semesters of Independent Study (CHEM 0970, 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 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.

A 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, Greek and Latin, 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.

Select one of the following series:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLAS 1210</td>
<td>Mediterranean Culture Wars: Archaic Greek History, c. 1200 to 479 BC</td>
<td>1</td>
</tr>
</tbody>
</table>

CLAS 1220 or HIST 1200B

or HIST 1200B

or HIST 1200B

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLAS 1210</td>
<td>The Fall of Empires and Rise of Kings: Greek History 478 to 323 BC</td>
<td>1</td>
</tr>
<tr>
<td>CLAS 1310</td>
<td>Roman History I: The Rise and Fall of an Imperial Republic</td>
<td>1</td>
</tr>
<tr>
<td>CLAS 1320</td>
<td>Roman History II: The Roman Empire and Its Impact</td>
<td>1</td>
</tr>
</tbody>
</table>

Greek

Four Greek courses on the 1000-level or above, at least one of which is to be:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>GREEK 1110B</td>
<td>Greek Literature Survey to 450 BCE</td>
<td>4</td>
</tr>
<tr>
<td>GREEK 1111B</td>
<td>Greek Literature Survey after 450 BCE</td>
<td>4</td>
</tr>
<tr>
<td>CLAS 1120</td>
<td>Mediterranean Culture Wars: Archaic Greek History, c. 1200 to 479 BC</td>
<td>1</td>
</tr>
<tr>
<td>CLAS 1220</td>
<td>The Fall of Empires and Rise of Kings: Greek History 478 to 323 BC</td>
<td>1</td>
</tr>
</tbody>
</table>

Two additional courses in classics, including classical archaeology, Greek, Latin, and related areas to be approved by the concentration advisor. At least one of these two courses must be offered through the Department of Classics.

Latin

Four Latin courses on the 1000-level or above, at least one of which is to be:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>LATN 1110B</td>
<td>Roman History II: The Empire</td>
<td>1</td>
</tr>
<tr>
<td>OR HIST 1201B</td>
<td>Roman History II: The Empire</td>
<td>1</td>
</tr>
</tbody>
</table>

Five other courses in classics, including classical archaeology, Greek, Latin, 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.

NOTE: Many of the BIOL courses have BIOL 0200 as a prerequisite.

NOTE: MATH 0180 has additional prerequisites.

Brown University
**Undergraduate Concentrations**

**South Asian Classics**

At least one Sanskrit course above Sanskrit 0300.  
1

Three of the Sanskrit Classics Courses in Translation.  
1

Four other courses in Classics or related areas (such as Comparative Literature, Religious Studies, South Asian Studies, Early Cultures, etc.) to be approved by the concentration advisor.  
4

One further course offered by the Department of Classics and designated "Classics and Beyond," OR a DIAP course offered by the Department of Classics.  
1

Total Credits  
9

<table>
<thead>
<tr>
<th>Options offered in 2018/2019 include: SANS 0400, SANS 1080 and SANS 1600.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Options offered in 2018/2019 include: CLAS 0855 and CLAS 1145.</td>
</tr>
<tr>
<td>Options offered by the Department of Classics in 2018/2019 include, but are not limited to: CLAS 0150, CLAS 0660, CLAS 0765, CLAS 0771, CLAS 0780, CLAS 0855, CLAS 0900, CLAS 1120G, CLAS 1120Q, CLAS 1120U, CLAS 1145, CLAS 1310, CLAS 1320, CLAS 1750H, CLAS 1750U, GREK 0100, GREK 0110, GREK 0200, GREK 0300, GREK 0400, GREK 1110B, GREK 1110S, GREK 1111B, GREK 1150, GREK 1810, LATN 1000, LATN 1010, LATN 1200, LATN 1300, LATN 1400, LATN 1500, LATN 1600, LATN 1700H, LATN 1700L, LATN 1800, LATN 1900B, and with instructor permission for those who are very advanced in Latin: LATN 2080F and LATN 2090I.</td>
</tr>
<tr>
<td>Options offered by the Department of Classics in 2018/2019 include, but are not limited to: CLAS 0660, CLAS 0765, CLAS 0855, CLAS 1120G, CLAS 1120U, CLAS 1145, CLAS 1750H, LATN 1110H, and with instructor permission for those who are very advanced in Latin: LATN 2080F and LATN 2090I.</td>
</tr>
</tbody>
</table>

**Greeek and Latin**

Four Latin courses on the 1000-level or above, at least one of which is to be:  

| Options offered in 2018/2019 include, but are not limited to: LATN 1020D, LATN 1040B, LATN 1060G, LATN 1110F, LATN 1110H, LATN 1110P, LATN 1820, LATN 1930B, and with instructor permission for those who are very advanced in Latin: LATN 2080F and LATN 2090I.  |
| Options offered by the Department of Classics in 2018/2019 include, but are not limited to: CLAS 0660, CLAS 0765, CLAS 0855, CLAS 1120G, CLAS 1120U, CLAS 1145, CLAS 1750H, LATN 1110H, and with instructor permission for those who are very advanced in Latin: LATN 2080F and LATN 2090I.  |

**Latin**

Four Latin courses on the 1000-level or above, at least one of which is to be:  

| Options offered in 2018/2019 include, but are not limited to: LATN 1020D, LATN 1040B, LATN 1060G, LATN 1110F, LATN 1110H, LATN 1110P, LATN 1820, LATN 1930B, and with instructor permission for those who are very advanced in Latin: LATN 2080F and LATN 2090I.  |
| Options offered by the Department of Classics in 2018/2019 include, but are not limited to: CLAS 0660, CLAS 0765, CLAS 0855, CLAS 1120G, CLAS 1120U, CLAS 1145, CLAS 1750H, LATN 1110H, and with instructor permission for those who are very advanced in Latin: LATN 2080F and LATN 2090I.  |

**Greek**

Four Greek courses on the 1000-level or above, at least one of which is to be:  

| Options offered in 2018/2019 include, but are not limited to: GREK 1110B, GREK 1110S, GREK 1111B, GREK 1150, GREK 1810 and with instructor permission for those who are very advanced in Greek: GREK 2020E and GREK 2110K.  |
| Options offered in 2018/2019 include, but are not limited to: GREK 1110B, GREK 1110S, GREK 1111B, GREK 1150, GREK 1810 and with instructor permission for those who are very advanced in Greek: GREK 2020E and GREK 2110K.  |

<table>
<thead>
<tr>
<th>Four Greek courses on the 1000-level or above, at least one of which is to be:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Options offered in 2018/2019 include: CLAS 0855 and CLAS 1145.</td>
</tr>
<tr>
<td>Options offered by the Department of Classics in 2018/2019 include, but are not limited to: CLAS 0150, CLAS 0660, CLAS 0765, CLAS 0771, CLAS 0780, CLAS 0855, CLAS 0900, CLAS 1120G, CLAS 1120Q, CLAS 1120U, CLAS 1145, CLAS 1310, CLAS 1320, CLAS 1750H, CLAS 1750U, GREK 0100, GREK 0110, GREK 0200, GREK 0300, GREK 0400, GREK 1110B, GREK 1110S, GREK 1111B, GREK 1150, GREK 1810, LATN 1000, LATN 1010, LATN 1200, LATN 1300, LATN 1400, LATN 1500, LATN 1600, LATN 1700H, LATN 1700L, LATN 1800, LATN 1900B, and with instructor permission for those who are very advanced in Latin: LATN 2080F and LATN 2090I.</td>
</tr>
<tr>
<td>Options offered by the Department of Classics in 2018/2019 include, but are not limited to: CLAS 0660, CLAS 0765, CLAS 0855, CLAS 1120G, CLAS 1120U, CLAS 1145, CLAS 1750H, LATN 1110H, and with instructor permission for those who are very advanced in Latin: LATN 2080F and LATN 2090I.</td>
</tr>
</tbody>
</table>

| Options offered in 2018/2019 include: SANS 0400, SANS 1080 and SANS 1600.  |
| Options offered in 2018/2019 include: CLAS 0855 and CLAS 1145.  |
| Options offered by the Department of Classics in 2018/2019 include, but are not limited to: CLAS 0150, CLAS 0660, CLAS 0765, CLAS 0771, CLAS 0780, CLAS 0855, CLAS 0900, CLAS 1120G, CLAS 1120Q, CLAS 1120U, CLAS 1145, CLAS 1310, CLAS 1320, CLAS 1750H, CLAS 1750U, GREK 0100, GREK 0110, GREK 0200, GREK 0300, GREK 0400, GREK 1110B, GREK 1110S, GREK 1111B, GREK 1150, GREK 1810, LATN 1000, LATN 1010, LATN 1200, LATN 1300, LATN 1400, LATN 1500, LATN 1600, LATN 1700H, LATN 1700L, LATN 1800, LATN 1900B, and with instructor permission for those who are very advanced in Latin: LATN 2080F and LATN 2090I.  |
| Options offered by the Department of Classics in 2018/2019 include, but are not limited to: CLAS 0660, CLAS 0765, CLAS 0855, CLAS 1120G, CLAS 1120U, CLAS 1145, CLAS 1750H, LATN 1110H, and with instructor permission for those who are very advanced in Latin: LATN 2080F and LATN 2090I.  |

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>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLAS 1210</td>
<td>Mediterranean Culture Wars: Archaic</td>
<td>1</td>
</tr>
<tr>
<td>CLAS 1220</td>
<td>The Fall of Empires and Rise of Kings: Greek History to 478 to 323 BCE</td>
<td>1</td>
</tr>
<tr>
<td>or HIST 1200B</td>
<td>The Fall of Empires and Rise of Kings: Greek History to 478 to 323 BCE</td>
<td>1</td>
</tr>
</tbody>
</table>

Two additional courses in Classics or related areas (such as Comparative Literature, Religious Studies, South Asian Studies, Early Cultures, etc.) to be approved by the concentration advisor.

Total Credits: 12

1. Options offered in 2018/2019 include: SANS 0100, SANS 0200, SANS 0300, SANS 0400, SANS 1080 and SANS 1600.
2. Options offered in 2018/2019 include, but are not limited to: GREEK 1110B, GREEK 1110S, GREEK 1111B, GREEK 1150, GREEK 1810 and with instructor permission for those who are very advanced in Greek: GREEK 2020E and GREEK 2110K.
3. Options offered by the Department of Classics in 2018/2019 include, but are not limited to: CLAS 0150, CLAS 0660, CLAS 0765, CLAS 0771, CLAS 0780, CLAS 0855, CLAS 0900, CLAS 1120G, CLAS 1120Q, CLAS 1120U, CLAS 1145, CLAS 1310, CLAS 1320, CLAS 1750H, CLAS 1750U, LATN 0100, LATN 0110, LATN 0200, LATN 0300, LATN 0400, LATN 1020D, LATN 1040B, LATN 1060G, LATN 1110F, LATN 1110H, LATN 1110P, LATN 1820, and LATN 1930B.

Latin and Sanskrit

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>LATN 1810</td>
<td>Survey of Republican Literature</td>
<td>1</td>
</tr>
<tr>
<td>or LATN 1820</td>
<td>Survey of Roman Literature II: Empire</td>
<td>1</td>
</tr>
<tr>
<td>CLAS 1310</td>
<td>Roman History I: The Rise and Fall of an Imperial Republic</td>
<td>1</td>
</tr>
<tr>
<td>or HIST 1201B</td>
<td>Roman History II: The Empire</td>
<td>1</td>
</tr>
</tbody>
</table>

Two additional courses in Classics or related areas (such as Comparative Literature, Religious Studies, South Asian Studies, Early Cultures, etc.) to be approved by the concentration advisor.

Total Credits: 12

1. Options offered in 2018/2019 include: SANS 0100, SANS 0200, SANS 0300, SANS 0400, SANS 1080 and SANS 1600.
2. Options offered in 2018/2019 include, but are not limited to: LATN 1020D, LATN 1040B, LATN 1060G, LATN 1110F, LATN 1110H, LATN 1110P, LATN 1820, LATN 1930B, and with instructor permission for those who are very advanced in Latin: LATN 2080F and LATN 2090I.
3. Options offered by the Department of Classics in 2018/2019 include, but are not limited to: CLAS 0150, CLAS 0660, CLAS 0765, CLAS 0771, CLAS 0780, CLAS 0855, CLAS 0900, CLAS 1120G, CLAS 1120Q,CLAS 1120U, CLAS 1145, CLAS 1750H, CLAS 1750U, GREEK 1000,GREEK 1100, GREEK 0200, GREEK 0300, GREEK 0400, GREEK 1110H, GREEK 1110B, GREEK 1110S,GREEK 1111B GREEK 1150, and GREEK 1810.

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 commitments, and successful techniques and approaches. The course could 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 requires 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.

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 Code</th>
<th>Course 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 0850</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>
</tr>
<tr>
<td>One approved course in Neuroscience, such as:</td>
<td>1</td>
<td></td>
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<tr>
<td>NEUR 0800</td>
<td>The Brain: An Introduction to Neuroscience</td>
<td></td>
</tr>
<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>
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<td></td>
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<tr>
<td>CLPS 0870</td>
<td>Human Cognition</td>
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<tr>
<td>CLPS 0450</td>
<td>Brain Damage and the Mind</td>
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</tr>
<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>
</tr>
<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>
<tr>
<td>NEUR 1440</td>
<td>Mechanisms and Meaning of Neural Dynamics</td>
<td></td>
</tr>
<tr>
<td>NEUR 1630</td>
<td>Open-Source Big Data Neuroscience Lab</td>
<td></td>
</tr>
<tr>
<td>NEUR 1680</td>
<td>Computational Neuroscience</td>
<td></td>
</tr>
<tr>
<td>Four Approved Electives:</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>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.</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

Acceptable Independent Research Courses: CLPS 1980 or NEUR 1970
Acceptable seminars: Any 1000-level seminar in CLPS or NEUR

Research Methods:
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLPS 1900</td>
<td>Research Methods And Design</td>
<td>1</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

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: 1
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEUR 1600</td>
<td>Experimental Neurobiology</td>
<td></td>
</tr>
<tr>
<td>NEUR 1650</td>
<td>Structure of the Nervous System</td>
<td></td>
</tr>
</tbody>
</table>

Laboratory courses outside of CLPS or NEUR are not acceptable

Four Approved Science Courses, such as: 4
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any 1000-level course in CLPS or NEUR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any course that is acceptable for concentrations in APMA, BIOL, CHEM, CSCI, MATH or PHYS is acceptable as a science course</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
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. Normally a 3.5 grade-point average in the concentration is required for admission to the Honors program. Please refer to the CLPS Honors Program page for specific requirements for the honors program in Cognitive Science.

**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>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>
</tbody>
</table>

| Four Approved Foundation Courses 1        |         |
| One approved course in Human Cognition, such as: |         |
| CLPS 0200 | Human Cognition                   | 1       |
| CLPS 0220 | Making Decisions                  | 1       |
| One approved course in Perception:        |         |
| CLPS 0500 | Perception and Mind               | 1       |
| One approved course in Language, such as:  |         |
| CLPS 0800 | Language and the Mind             | 1       |
| CLPS 0300 | Introduction to Linguistics       | 1       |
| 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 related to Cognitive Science, such as: 2 | 4 |
| APMA 1690 Computational Probability and Statistics |         |
| BIOL 0480 Evolutionary Biology                     |         |
| CLPS 1100 Animal Cognition                         |         |
| CLPS 1210 Human Memory and Learning                |         |
| CLPS 1470 Mechanisms of Motivated Decision Making  |         |
| CLPS 1500 Perception and Action                     |         |
| CLPS 1610 Cognitive Development                     |         |
| CLPS 1800 Language Processing                       |         |
| CSCI 1010 Theory of Computation                      |         |
| CSCI 1480 Building Intelligent Robots               |         |
| ENGN 1580 Communication Systems                     |         |
| PHIL 1770 Philosophy of Mind                         |         |

| One Independent Study or Approved Seminar, such as: 3 | 1 |
| 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                       | 1       |
| CLPS 1900 Research Methods And Design             |         |

| Total Credits | 12 |

**Requirements for the Sc.B. degree**

**STANDARD PROGRAM FOR THE Sc.B. DEGREE**

<table>
<thead>
<tr>
<th>Two Common Core Courses</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLPS 0010</td>
<td>Mind, Brain and Behavior: An Interdisciplinary Approach</td>
</tr>
<tr>
<td>CLPS 0900</td>
<td>Statistical Methods</td>
</tr>
</tbody>
</table>

| Four Approved Foundation Courses 1 |         |
| One approved course in Human Cognition, such as: |         |
| CLPS 0200 | Human Cognition                   | 1       |
| CLPS 0220 | Making Decisions                  | 1       |
| One approved course in Perception: |         |
| CLPS 0500 | Perception and Mind               | 1       |
| One approved course in Language, such as: 1 |         |
| CLPS 0800 | Language and the Mind             | 1       |
| CLPS 0300 | Introduction to Linguistics       | 1       |
| One approved course in Computational Methods, such as: 1 |         |
| CLPS 0950 | Introduction to programming       |         |
| CLPS 1291 | Computational Methods for Mind, Brain and Behavior |         |

| Four Approved Electives, such as: 2 | 4 |
| APMA 1690 Computational Probability and Statistics |         |

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>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 0480</td>
<td>Evolutionary Biology</td>
</tr>
<tr>
<td>CLPS 1100</td>
<td>Animal Cognition</td>
</tr>
<tr>
<td>CLPS 1210</td>
<td>Human Memory and Learning</td>
</tr>
<tr>
<td>CLPS 1470</td>
<td>Mechanisms of Motivated Decision Making</td>
</tr>
<tr>
<td>CLPS 1500</td>
<td>Perception and Action</td>
</tr>
<tr>
<td>CLPS 1610</td>
<td>Cognitive Development</td>
</tr>
<tr>
<td>CLPS 1800</td>
<td>Language Processing</td>
</tr>
<tr>
<td>CSCI 1010</td>
<td>Theory of Computation</td>
</tr>
<tr>
<td>CSCI 1480</td>
<td>Building Intelligent Robots</td>
</tr>
<tr>
<td>ENGN 1580</td>
<td>Communication Systems</td>
</tr>
<tr>
<td>PHIL 1770</td>
<td>Philosophy of Mind</td>
</tr>
</tbody>
</table>

One Independent Study or Approved Seminar, such as: 3

- CLPS 1400 The Neural Bases of Cognition
- CLPS 1480C Cognitive Control Functions of the Prefrontal Cortex
- CLPS 1495 Affective Neuroscience
- CLPS 1560 Visually-Guided Action and Cognitive Processes
- CLPS 1990 Senior Seminar in Cognitive Science

One Research Methods Course 1

- CLPS 1900 Research Methods And Design

One Approved Laboratory Course, such as: 4

- CLPS 1192 Experimental Analysis of Animal Behavior and Cognition
- CLPS 1193 Laboratory in Genes and Behavior
- CLPS 1492 Computational Cognitive Neuroscience
- CLPS 1510 Auditory Perception Laboratory
- CLPS 1590 Visualizing Vision
- CLPS 1791 Laboratory in Social Cognition
- CLPS 1890 Laboratory in Psycholinguistics

Four Approved Science Courses, such as: 5

- BIOL 0200 The Foundation of Living Systems
- BIOL 0800 Principles of Physiology
- CHEM 0350 Organic Chemistry
- CSCI 1430 Computer Vision
- CSCI 1950F Introduction to Machine Learning
- ENGN 1220 Neuroengineering
- MATH 0100 Introductory 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.

### Comparative Literature

The concentration in Comparative Literature enables students to study literature in cross-cultural perspectives. The aim of the program is to encourage students to study a varied and illustrative range of literary topics rather than the total development of a single literary tradition. True to the spirit of Brown’s New Curriculum, a concentration in Comparative Literature affords great academic freedom. For example: advanced courses in any literature department at Brown count for concentration credit; although English is commonly one of the languages that students apply to their Comparative Literature studies, basically any language—ancient or modern—supported at Brown may form part of a Comparative Literature concentration program. In essence, concentrators study a generous range of literary works—from Western cultures, both ancient and modern, to Chinese, Japanese, and Arabic—and develop a focused critical understanding of how cultures differ from one another. Comparative Literature differs from other literature concentrations largely through its international focus and its broad-gauged view of art and culture in which the study of languages is combined with the analysis of literature and literary theory. All students take a course in literary theory and have the opportunity to complete a senior essay.

Please contact the Director of Undergraduate Studies, listed below, with questions.

There are three concentration tracks in Comparative Literature, listed below, with examples of courses that may fulfill the requirements, above, include but are not limited to the following courses. Students are encouraged to discuss class choices with their advisor.

**Track 1: Concentration in Comparative Literature with two languages**

- Complete prerequisites(s) for taking 1000-level courses in your two languages by Semester V (students working in non-European languages may be allowed more latitude; be sure to consult a concentration advisor about constructing an individualized plan).
- Comparative Literature 1210 (COLT 1210), Introduction to the Theory of Literature.
- TEN advanced literature courses (generally 1000-level courses), including Comparative Literature 1210 and:
  a. At least TWO courses in the literature of each of your languages, and the remainder drawn chiefly from among the offerings of Comparative Literature and English, and other national literature departments.
  b. ONE COURSE chiefly devoted to EACH of the three major literary genres: poetry, drama and narrative.
  c. ONE literature course chiefly devoted to EACH OF THREE of the following five historical periods:
     - Antiquity
     - Middle Ages
     - Renaissance/Early Modern
     - Enlightenment
     - Modern. Please note that the 19th, 20th, and 21st centuries count as one period, the Modern Period.

**Examples of courses that may fulfill the requirements, above, include but are not limited to the following courses.**

- COLT 0510C The World of Lyric Poetry
- 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 0710C Introduction to Scandinavian Literature
- COLT 0610E Crisis and Identity in Mexico, 1519-1968
- COLT 0610L Murder Ink: Narratives of Crime, Discovery, and Identity
- COLT 0710I New Worlds: Reading Spaces and Places in Colonial Latin America
- COLT 0710Z Comedy from Athens to Hollywood
- COLT 0711H The Arabic Novel
- COLT 0810E Confession, Autobiography, Testimony
- COLT 0810H How Not to Be a Hero
- COLT 0810I Tales and Talemakers of the Non-Western World
- COLT 0810O Civilization and Its Discontents

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>COLT 0811I</td>
<td>Classical Mythology and the Western Tradition</td>
</tr>
<tr>
<td>COLT 0812P</td>
<td>Banned Books of Middle East</td>
</tr>
<tr>
<td>COLT 1210</td>
<td>Introduction to the Theory of Literature</td>
</tr>
<tr>
<td>COLT 1310N</td>
<td>Global Modernism and Crisis</td>
</tr>
<tr>
<td>COLT 1410S</td>
<td>Classical Tragedy</td>
</tr>
<tr>
<td>COLT 1420B</td>
<td>A Mirror for the Romantic: The Tale of Genji and The Story of the Stone</td>
</tr>
<tr>
<td>COLT 1420T</td>
<td>The Fiction of Relationship</td>
</tr>
<tr>
<td>COLT 1422J</td>
<td>Global Detective Fiction</td>
</tr>
<tr>
<td>COLT 1422L</td>
<td>The Modernist Novel: Alienation and Narration</td>
</tr>
<tr>
<td>COLT 1430D</td>
<td>Critical Approaches to Chinese Poetry</td>
</tr>
<tr>
<td>COLT 1431B</td>
<td>Modern Arabic Poetry</td>
</tr>
<tr>
<td>COLT 1431C</td>
<td>Poets, Poetry, and Politics</td>
</tr>
<tr>
<td>COLT 1431F</td>
<td>Reading Modernist Poetry</td>
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<tr>
<td>COLT 1440P</td>
<td>Nationalism and Transnationalism in Film and Fiction</td>
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<tr>
<td>COLT 1440X</td>
<td>Shéhérazades : Depicting the &quot;Orientale&quot; in Modern French Culture</td>
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<tr>
<td>COLT 1610B</td>
<td>Irony</td>
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<tr>
<td>COLT 1610V</td>
<td>The Promise of Being: Heidegger for Beginners</td>
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<tr>
<td>COLT 1710C</td>
<td>Literary Translation Workshop</td>
</tr>
<tr>
<td>COLT 1810P</td>
<td>Literature and Medicine</td>
</tr>
<tr>
<td>COLT 1811L</td>
<td>Travel, Tourism, Trafficking through the Ages</td>
</tr>
<tr>
<td>COLT 1812V</td>
<td>War, Anti-War, Postwar: Culture and Contestation in the Americas</td>
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<tr>
<td>COLT 1813M</td>
<td>Making a List</td>
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<td>COLT 1813N</td>
<td>Early Modern Women's Writing</td>
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<tr>
<td>COLT 1813Q</td>
<td>Literature and Judgement</td>
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<tr>
<td>COLT 1814S</td>
<td>The Balkans, Europe's Other?: Literature, Film, History</td>
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<td>COLT 1814U</td>
<td>Politics of Reading</td>
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<td>COLT 2210</td>
<td>Introduction to the Theory of Literature</td>
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<td>COLT 2720C</td>
<td>Literary Translation</td>
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<tr>
<td>COLT 2820L</td>
<td>Moderns and Primitives</td>
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<tr>
<td>COLT 2820M</td>
<td>Discourses of the Senses</td>
</tr>
<tr>
<td>COLT 2822D</td>
<td>Literature and Politics in the Age of Revolution</td>
</tr>
</tbody>
</table>

**Track 2: Concentration in Comparative Literature with three languages**

- Complete prerequisites(s) for taking 1000-level courses in your two languages by Semester V (students working in non-European languages may be allowed more latitude; be sure to consult a concentration advisor about constructing an individualized plan).
- Complete the same requirement for your third language before Semester VII (the above proviso for students working in non-European languages also holds here).
- Comparative Literature 1210 (COLT 1210), Introduction to the Theory of Literature.
- TEN advanced literature courses (generally 1000-level courses), including Comparative Literature 1210 and:
  a. At least TWO courses in the literature of each of your languages, and the remainder drawn chiefly from among the offerings of Comparative Literature and English, and other national literature departments.
  b. ONE COURSE chiefly devoted to EACH of the three major literary genres: poetry, drama and narrative.

Examples of courses that may fulfill the requirements, above, include but are not limited to the following courses. Students are encouraged to discuss class choices with their advisor.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>COLT 0510C</td>
<td>The World of Lyric Poetry</td>
</tr>
<tr>
<td>COLT 0510F</td>
<td>Fidel Castro and Che Guevara, The Men and the Myths</td>
</tr>
<tr>
<td>COLT 0510K</td>
<td>The 1001 Nights</td>
</tr>
<tr>
<td>COLT 0510P</td>
<td>Reading the Renaissance</td>
</tr>
<tr>
<td>COLT 0610D</td>
<td>Rites of Passage</td>
</tr>
<tr>
<td>COLT 0610E</td>
<td>Crisis and Identity in Mexico, 1519-1968</td>
</tr>
<tr>
<td>COLT 0610L</td>
<td>Murder Ink: Narratives of Crime, Discovery, and Identity</td>
</tr>
<tr>
<td>COLT 0710C</td>
<td>Introduction to Scandinavian Literature</td>
</tr>
<tr>
<td>COLT 0710I</td>
<td>New Worlds: Reading Spaces and Places in Colonial Latin America</td>
</tr>
<tr>
<td>COLT 0710Z</td>
<td>Comedy from Athens to Hollywood</td>
</tr>
<tr>
<td>COLT 0711H</td>
<td>The Arabic Novel</td>
</tr>
<tr>
<td>COLT 0810E</td>
<td>Confession, Autobiography, Testimony</td>
</tr>
<tr>
<td>COLT 0810H</td>
<td>How Not to Be a Hero</td>
</tr>
<tr>
<td>COLT 0810I</td>
<td>Tales and Talemakers of the Non-Western World</td>
</tr>
<tr>
<td>COLT 0810O</td>
<td>Civilization and Its Discontents</td>
</tr>
<tr>
<td>COLT 0811I</td>
<td>Classical Mythology and the Western Tradition</td>
</tr>
<tr>
<td>COLT 0812P</td>
<td>Banned Books of Middle East</td>
</tr>
<tr>
<td>COLT 1210</td>
<td>Introduction to the Theory of Literature</td>
</tr>
<tr>
<td>COLT 1310N</td>
<td>Global Modernism and Crisis</td>
</tr>
<tr>
<td>COLT 1422J</td>
<td>Global Detective Fiction</td>
</tr>
<tr>
<td>COLT 1422L</td>
<td>The Modernist Novel: Alienation and Narration</td>
</tr>
<tr>
<td>COLT 1430D</td>
<td>Critical Approaches to Chinese Poetry</td>
</tr>
<tr>
<td>COLT 1430H</td>
<td>Poetry, Art, and Beauty</td>
</tr>
<tr>
<td>COLT 1431B</td>
<td>Modern Arabic Poetry</td>
</tr>
<tr>
<td>COLT 1431C</td>
<td>Poets, Poetry, and Politics</td>
</tr>
<tr>
<td>COLT 1431F</td>
<td>Reading Modernist Poetry</td>
</tr>
<tr>
<td>COLT 1440P</td>
<td>Nationalism and Transnationalism in Film and Fiction</td>
</tr>
<tr>
<td>COLT 1440X</td>
<td>Shéhérazades : Depicting the &quot;Orientale&quot; in Modern French Culture</td>
</tr>
<tr>
<td>COLT 1610B</td>
<td>Irony</td>
</tr>
<tr>
<td>COLT 1610V</td>
<td>The Promise of Being: Heidegger for Beginners</td>
</tr>
<tr>
<td>COLT 1710C</td>
<td>Literary Translation Workshop</td>
</tr>
<tr>
<td>COLT 1810P</td>
<td>Literature and Medicine</td>
</tr>
<tr>
<td>COLT 1811L</td>
<td>Travel, Tourism, Trafficking through the Ages</td>
</tr>
<tr>
<td>COLT 1812V</td>
<td>War, Anti-War, Postwar: Culture and Contestation in the Americas</td>
</tr>
<tr>
<td>COLT 1813M</td>
<td>Making a List</td>
</tr>
</tbody>
</table>

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Track 3: Concentration in Literary Translation

- Complete prerequisites(s) for taking 1000-level courses in your two languages by Semester V (students working in non-European languages may be allowed more latitude; be sure to consult a concentration advisor about constructing an individualized plan).
- Comparative Literature 1210 (COLT 1210), Introduction to the Theory of Literature.
- Comparative Literature 1710 (COLT 1710A, COLT 1710C, COLT 1710D), Comparative Literature 2720 strongly urged.
- ONE course or MORE in Linguistics, drawn from among these courses: Cognitive, Linguistic and Psychological Sciences 0410, Anthropology 0800, English 1210, Hispanic Studies 1210 or an acceptable substitute.
- FIVE or SIX advanced literature courses (generally 1000-level courses), including Comparative Literature 1210 and:
  a. At least TWO courses in the literature of each of your languages, and the remainder drawn chiefly from among the offerings of Comparative Literature and English, and other national literature departments.
  b. ONE COURSE chiefly devoted to EACH of the three major literary genres: poetry, drama and narrative.
  c. ONE literature course chiefly devoted to EACH OF THREE of the following five historical periods:
     - Antiquity
     - Middle Ages
     - Renaissance/Early Modern
     - Enlightenment
     - Modern. Please note that the 19th, 20th, and 21st centuries count as one period, the Modern Period.
- TWO workshops or MORE in Creative Writing
- A senior project to consist of:
  - A substantial work in translation (length will vary depending upon language and genre);
  - A critical introduction outlining the method used and specific problems encountered, and commenting on the history of the original work together with other translations, if any. For thesis, the student may register for COLT 1990, which will be taken in addition to the ten required courses listed above. Successful completion of the thesis constitutes Honors. (See Guidelines for Honors Theses).

Examples of courses that may fulfill the requirements, above, include but are not limited to the following courses. Students are encouraged to discuss class choices with their advisor.

- COLT 0510C The World of Lyric Poetry
- 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 0610E Crisis and Identity in Mexico, 1519-1968
- COLT 0610L Murder Ink: Narratives of Crime, Discovery, and Identity
- COLT 0710C Introduction to Scandinavian Literature
- COLT 0710I New Worlds: Reading Spaces and Places in Colonial Latin America
- COLT 0710Z Comedy from Athens to Hollywood
- COLT 0711H The Arabic Novel
- COLT 0810E Confession, Autobiography, Testimony
- COLT 0810H How Not to Be a Hero
- COLT 0810I Tales and Talismakers of the Non-Western World
- COLT 0810O Civilization and Its Discontents
- COLT 0811I Classical Mythology and the Western Tradition
- COLT 0812P Banned Books of Middle East
- COLT 1210 Introduction to the Theory of Literature
- COLT 1410S Classical Tragedy
- COLT 1420B A Mirror for the Romantic: The Tale of Genji and The Story of the Stone
- COLT 1420T The Fiction of Relationship
- COLT 1310N Global Modernism and Crisis
- COLT 1422J Global Detective Fiction
- COLT 1422L The Modernist Novel: Alienation and Narration
- COLT 1430D Critical Approaches to Chinese Poetry
- COLT 1430H Poetry, Art, and Beauty
- COLT 1431B Modern Arabic Poetry
- COLT 1431C Modern Arabic Poetry
- COLT 1431D Poets, Poetry, and Politics
- COLT 1431F Reading Modernist Poetry
- COLT 1440P Nationalism and Transnationalism in Film and Fiction
- COLT 1440X Shéhérazades : Depicting the "Orientale" in Modern French Culture
- COLT 1610B Irony
- COLT 1610V The Promise of Being: Heidegger for Beginners
- COLT 1710C Literary Translation Workshop
- COLT 1810P Literature and Medicine
- COLT 1811L Travel, Tourism, Trafficking through the Ages
- COLT 1812V War, Anti-War, Postwar: Culture and Contestation in the Americas
- COLT 1813M Making a List
- COLT 1813N Early Modern Women's Writing
- COLT 1813Q Literature and Judgement
- COLT 1814U Politics of Reading
- COLT 2210 Introduction to the Theory of Literature
- COLT 2720C Literary Translation
- COLT 2820L Moderns and Primitives
- COLT 2820M Discourses of the Senses
- COLT 2822D Literature and Politics in the Age of Revolution

For additional information, please visit the Comparative Literature website (http://www.brown.edu/Departments/Comparative_Literature/) or see the Director of Undergraduate Studies, Professor Ourida Mostefai.

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.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
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 Introductory Calculus, Part II
- MATH 0170 Advanced Placement Calculus
- BIOL 0200 The Foundation of Living Systems

**General Core Requirements: Biology**
- BIOL 0470 Genetics
- BIOL 0280 Biochemistry
- or BIOL 0500 Cell and Molecular Biology

**General Core Requirements: Chemistry**
- CHEM 0330 Equilibrium, Rate, and Structure
- or CHEM 0350 Organic Chemistry

**General Core Requirements: Computer Science**
- CSCI 0150 Introduction to Object-Oriented Programming and Computer Science and Introduction to Algorithms and Data Structures
- OR
  - CSCI 0170 & CSCI 0180 Computer Science: An Integrated Introduction and Computer Science: An Integrated Introduction
- OR
  - CSCI 0190 & CSCI 0180 Accelerated Introduction to Computer Science and Computer Science: An Integrated Introduction and Introduction to Software Engineering and Introduction to Computer Systems and Theory of Computation

**General Core Requirements: Probability & Statistics**
- APMA 1650 Statistical Inference I
- OR
  - CSCI 1450 Probability for Computing and Data Analysis
- OR
  - MATH 1610 Probability

**Comp Bio Core Course Requirements**
- 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
- BIOL 1430 Population Genetics
- BIOL 1465 Human Population Genomics
- 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:
- 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 Introductory Calculus, Part II (or equivalent)
- or MATH 0170 Advanced Placement Calculus
- BIOL 0200 The Foundation of Living Systems (or equivalent)

**General Core Course Requirements: Biology**
- BIOL 0470 Genetics (prerequisite BIOL 0200 or equivalent)
- BIOL 0280 Biochemistry
- or BIOL 0500 Cell and Molecular Biology

**General Core Requirements: Chemistry**
- CHEM 0330 Equilibrium, Rate, and Structure
- or CHEM 0350 Organic Chemistry

**General Core Requirements: Computer Science**
- CSCI 0150 Introduction to Object-Oriented Programming and Computer Science and Introduction to Algorithms and Data Structures
- OR
  - CSCI 0170 & CSCI 0180 Computer Science: An Integrated Introduction and Computer Science: An Integrated Introduction
- OR
  - CSCI 0190 & CSCI 0180 Accelerated Introduction to Computer Science and Computer Science: An Integrated Introduction and Introduction to Software Engineering and Introduction to Computer Systems

**General Core Requirements: Probability & Statistics**
- APMA 1650 Statistical Inference I
- or CSCI 1450 Probability for Computing and Data Analysis
- or MATH 1610 Probability

**General Core Requirements: Computational Biology**
- CSCI 1810 Computational Molecular Biology
- APMA 1080 Inference in Genomics and Molecular Biology

**Capstone Experience**
- BIOL 1950/1960 Directed Research/Independent Study
- CSCI 1970 Individual Independent Study

**Six courses in one of the following three tracks:**

**Computer Science Track:**
Three of the following:

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

**CSCI 1230**  Introduction to Computer Graphics  
**CSCI 1270**  Database Management Systems  
**CSCI 1410**  Artificial Intelligence  
**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**  Introduction to Software Engineering  
**CSCI 1820**  Algorithmic Foundations of Computational Biology  
**PHP 2620**  Statistical Methods in Bioinformatics, I  
**APMA 1660**  Statistical Inference II  
**BIOL 1430**  Population Genetics  
**BIOL 1465**  Human Population Genomics  
**APMA 1690**  Computational Probability and Statistics  

**Biological Sciences track**  
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:  
**CSCI 1820**  Algorithmic Foundations of Computational Biology  
**PHP 2620**  Statistical Methods in Bioinformatics, I  
**APMA 1660**  Statistical Inference II  
**BIOL 1430**  Population Genetics  
**BIOL 1465**  Human Population Genomics  
**APMA 1690**  Computational Probability and Statistics  

**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 I, II and Methods of Applied Mathematics I, II  
**OR**  
**APMA 0360** & **APMA 0350**  Applied Partial Differential Equations I and Applied Ordinary Differential Equations

At least three of the following:  
**BIOL 1430**  Population Genetics  
**CSCI 1820**  Algorithmic Foundations of Computational Biology  
**PHP 2620**  Statistical Methods in Bioinformatics, I  
**APMA 1070**  Quantitative Models of Biological Systems  
**BIOL 1465**  Human Population Genomics

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 "C"s 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 those courses. 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**  Introductory Calculus, Part II  
- **or MATH 0170**  Advanced Placement Calculus  
- **or MATH 0190**  Advanced Placement Calculus (Physics/Engineering)

**Concentration Requirements**

**Core-Computer Science:**

Select one of the following introductory course Series:  

<table>
<thead>
<tr>
<th>Series A</th>
<th>CSCI 0150 &amp; CSCI 0160</th>
<th>Introduction to Object-Oriented Programming and Computer Science and Introduction to Algorithms and Data Structures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Series B</td>
<td>CSCI 0170 &amp; CSCI 0180</td>
<td>Computer Science: An Integrated Introduction and Computer Science: An Integrated Introduction</td>
</tr>
<tr>
<td>Series C</td>
<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 0180, an intermediate-level course, or an advanced course)</td>
</tr>
</tbody>
</table>

Thirteen CS courses numbered 0220 or higher.

- 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
  - 2000-level courses beyond those explicitly mentioned my also be used toward the concentration. They will be considered to be part of the same pathway as their thematically-related 1000-level courses

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Students must complete the intermediate courses defined for the pathway they choose. In addition, ScB students must take at least one course from each intermediate course category to ensure they span all areas. Taking additional courses beyond those listed for the pathway may be required.

### Foundations
- CSCI 0220: Introduction to Discrete Structures and Probability
- CSCI 1010: Theory of Computation

### Mathematics
- CSCI 0530: Coding the Matrix: An Introduction to Linear Algebra for Computer Science
  - or MATH 0520: Linear Algebra
  - or MATH 0540: Honors Linear Algebra
- CSCI 1450: Probability for Computing and Data Analysis
  - or APMA 1650: Statistical Inference I
  - or APMA 1655: Statistical Inference I
- MATH 0180: Intermediate Calculus
  - or MATH 0200: Intermediate Calculus (Physics/Engineering)
  - or MATH 0350: Honors Calculus

### Systems
- CSCI 0320: Introduction to Software Engineering
- CSCI 0330: Introduction to Computer Systems

### Pathways

#### SYSTEMS: studies the design, construction, and analysis of modern, multi-faceted computing systems

### Core Courses
- CSCI 1380: Distributed Computer Systems
  - or CSCI 1670: Operating Systems
  - or CSCI 1680: Computer Networks

### Related Courses
- CSCI 1270: Database Management Systems
  - or CSCI 1310: Fundamentals of Computer Systems
  - or CSCI 1320: Creating Modern Web & Mobile Applications
  - or CSCI 1600: Real-Time and Embedded Software
  - or CSCI 1650: Software Security and Exploitation
  - or CSCI 1660: Introduction to Computer Systems Security
  - or CSCI 1730: Design and Implementation of Programming Languages
  - or CSCI 1760: Multiprocessor Synchronization
  - or CSCI 1950Y: Logic for Systems
  - or ENGN 1640: Design of Computing Systems

### Intermediate Courses
- CSCI 0220: Introduction to Discrete Structures and Probability
- CSCI 0320: Introduction to Software Engineering

#### SOFTWARE PRINCIPLES: studies the design, construction, and analysis of modern software systems

### Core Courses
- CSCI 1260: Compilers and Program Analysis
  - or CSCI 1320: Creating Modern Web & Mobile Applications
  - or CSCI 1600: Real-Time and Embedded Software
  - or CSCI 1730: Design and Implementation of Programming Languages
  - or CSCI 1950Y: Logic for Systems

### Related Courses
- CSCI 1270: Database Management Systems
  - or CSCI 1380: Distributed Computer Systems
  - or CSCI 1650: Software Security and Exploitation
  - or CSCI 1680: Computer Networks
  - or CSCI 1951I: CS for Social Change
  - or CSCI 1951T: Surveying VR Data Visualization Software for Research

### Intermediate Courses
- CSCI 0220: Introduction to Discrete Structures and Probability
- CSCI 0320: Introduction to Software Engineering

#### DATA: Studies the management and use of large data collections

### Core Courses
- CSCI 1270: Database Management Systems
  - or CSCI 1420: Machine Learning
  - or CSCI 1951A: Data Science

### Related Courses
- CSCI 1550: Probabilistic Methods in Computer Science
  - or CSCI 1580: Information Retrieval and Web Search
  - or ECON 1660: Big Data

### Intermediate Courses
- CSCI 0320: Introduction to Software Engineering
- CSCI 0330: Introduction to Computer Systems
- MATH 0520: Linear Algebra
  - or MATH 0540: Honors Linear Algebra
  - or CSCI 0530: Coding the Matrix: An Introduction to Linear Algebra for Computer Science
- CSCI 1450: Probability for Computing and Data Analysis
  - or APMA 1650: Statistical Inference I
  - or APMA 1655: Statistical Inference I

### ARTIFICIAL INTELLIGENCE / MACHINE LEARNING: studies the theory and application of algorithms for making decisions and inferences from rules and data

### Core Courses
- CSCI 1410: Artificial Intelligence
  - or CSCI 1420: Machine Learning
  - or CSCI 1430: Computer Vision
  - or CSCI 1460: Computational Linguistics
  - or CSCI 1470: Deep Learning
  - or CSCI 1951R: Introduction to Robotics

### Related Courses
- CSCI 1550: Probabilistic Methods in Computer Science
  - or CSCI 1951A: Data Science
  - or CSCI 1951C: Designing Humanity Centered Robots
  - or CSCI 1951K: Algorithmic Game Theory
  - or ENGN 1610: Image Understanding

### Intermediate Courses

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
CSCI 1450 Probability for Computing and Data Analysis
or APMA 1650 Statistical Inference I
or APMA 1655 Statistical Inference I
MATH 0520 Linear Algebra
or MATH 0540 Honors Linear Algebra
or CSCI 0530 Coding the Matrix: An Introduction to Linear Algebra for Computer Science

**THEORY:** studies the foundations of models and algorithms for computing in various contexts

**Core Courses**
- CSCI 1510 Introduction to Cryptography and Computer Security
- or CSCI 1550 Probabilistic Methods in Computer Science
- or CSCI 1570 Design and Analysis of Algorithms
- or CSCI 1760 Multiprocessor Synchronization

**Related Courses**
- CSCI 1590 Introduction to Computational Complexity
- or CSCI 1810 Computational Molecular Biology
- or CSCI 1820 Algorithmic Foundations of Computational Biology
- or CSCI 1950H Computational Topology
- or CSCI 1950Y Logic for Systems
- or CSCI 19510 Optimization Methods in Finance
- or CSCI 1951K Algorithmic Game Theory

**Intermediate Courses**
- CSCI 1010 Theory of Computation
- CSCI 1450 Probability for Computing and Data Analysis
or APMA 1650 Statistical Inference I
or APMA 1655 Statistical Inference I
- MATH 0520 Linear Algebra
or MATH 0540 Honors Linear Algebra
or CSCI 0530 Coding the Matrix: An Introduction to Linear Algebra for Computer Science

**SECURITY:** studies the design, construction, analysis, and defense of techniques to protect systems, data, and communications

**Core Courses**
- CSCI 1510 Introduction to Cryptography and Computer Security
- or CSCI 1660 Introduction to Computer Systems Security
- or CSCI 1650 Software Security and Exploitation

**Related Courses**
- CSCI 1320 Creating Modern Web & Mobile Applications
- or CSCI 1380 Distributed Computer Systems
- or CSCI 1670 Operating Systems
- or CSCI 1680 Computer Networks
- or CSCI 1730 Design and Implementation of Programming Languages
- or CSCI 1800 Cybersecurity and International Relations
- or CSCI 1805 Computers, Freedom and Privacy
- or CSCI 1950Y Logic for Systems

**Intermediate Courses**
- CSCI 0330 Introduction to Computer Systems
- CSCI 1010 Theory of Computation
- CSCI 0220 Introduction to Discrete Structures and Probability (Or Probability and Statistics (see options below))
- or CSCI 1450 Probability for Computing and Data Analysis
- or APMA 1650 Statistical Inference I

**VISUAL COMPUTING:** studies the creation, interaction, and analysis of images and visual information, including animation and games

**Core Courses**
- CSCI 1230 Introduction to Computer Graphics
- or CSCI 1250 Introduction to Computer Animation
- or CSCI 1280 Intermediate 3D Computer Animation
- or CSCI 1290 Computational Photography
- or CSCI 1300 User Interfaces and User Experience
- or CSCI 1370 Virtual Reality Design for Science
- or CSCI 1430 Computer Vision
- or CSCI 1950T Advanced Animation Production

**Related Courses**
- CSCI 1950N 2D Game Engines
- or CSCI 1470 Deep Learning
- or CSCI 1950U Topics in 3D Game Engine Development
- or ENGN 1610 Image Understanding
- or CLPS 1520 Computational Vision
- or DATA 1200 Reality Remix - Experimental VR

**Intermediate Courses**
- CSCI 0320 Introduction to Software Engineering
- or CSCI 0330 Introduction to Computer Systems
- MATH 0520 Linear Algebra
or MATH 0540 Honors Linear Algebra
or CSCI 0530 Coding the Matrix: An Introduction to Linear Algebra for Computer Science

**COMPUTER ARCHITECTURE:** studies the design, construction, and analysis of computer architecture and hardware

**Core Courses**
- ENGN 1630 Digital Electronics Systems Design
- or ENGN 1640 Design of Computing Systems
- or ENGN 1650 Embedded Microprocessor Design

**Related Courses**
- CSCI 1600 Real-Time and Embedded Software
- or CSCI 1760 Multiprocessor Synchronization
- or ENGN 1600 Design and Implementation of Digital Integrated Circuits

**Intermediate Course**
- CSCI 0330 Introduction to Computer Systems

**COMPUTATIONAL BIOLOGY:** studies the foundations and applications of algorithms for analyzing biological data and processes

**Core Courses**
- CSCI 1810 Computational Molecular Biology
- CSCI 1820 Algorithmic Foundations of Computational Biology
- CSCI 1850 Deep Learning in Genomics

**Related Courses**
- CSCI 1420 Machine Learning
- or CSCI 1430 Computer Vision
- or CSCI 1951A Data Science
- or CLPS 1520 Computational Vision

**Intermediate Courses**
- CSCI 0220 Introduction to Discrete Structures and Probability
- or CSCI 1010 Theory of Computation
- CSCI 1450 Probability for Computing and Data Analysis

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
requirements for the professional track of the sc.b. degree.

the requirements for the professional track include all those of the standard track, as well as the following:

students must complete two two-to-four-month full-time professional experiences, doing work that is related to their concentration programs. such work is normally done within an industrial organization, but may also be at a university under the supervision of a faculty member.

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.

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 introductory calculus, part ii
- math 0170 advanced placement calculus
- math 0190 advanced placement calculus (physics/engineering)

concentration requirements (9 courses)

core computer science:

select one of the following series:

series a

- 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 course, or an advanced course)

seven cs courses numbered 0220 or higher

# one complete pathway (see scb for pathways)

- requires two 1000-level courses as well as one-to-three intermediate courses

# 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.

requirements for the professional track of the a.b. degree.

the requirements for the professional track include all those of the standard track, as well as the following:

students must complete two two-to-four-month full-time professional experiences, doing work that is related to their concentration programs.

for up-to-date course information please visit courses@brown.edu (https://cab.brown.edu).
Such work is normally done within an industrial organization, but may also be at a university under the supervision of a faculty member. 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.

### 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 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. In addition to courses in economics, computer science, and applied mathematics, all concentrators must fulfill the Computer Science department's writing requirement by passing a course that involves significant expository writing.

### Standard Program for the Sc.B. degree.

**Prerequisites (3 courses):**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 0100</td>
<td>Introductory Calculus, Part II</td>
</tr>
<tr>
<td>MATH 0520</td>
<td>Linear Algebra</td>
</tr>
<tr>
<td>or MATH 0540</td>
<td>Honors Linear Algebra</td>
</tr>
<tr>
<td>or CSCI 0530</td>
<td>Coding the Matrix: An Introduction to Linear Algebra for Computer Science</td>
</tr>
<tr>
<td>ECON 0110</td>
<td>Principles of Economics</td>
</tr>
</tbody>
</table>

**Required Courses: 17 courses: 8 Computer Science, 8 Economics, and a Capstone**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCI 1450</td>
<td>Probability for Computing and Data Analysis</td>
</tr>
<tr>
<td>or APMA 1650</td>
<td>Statistical Inference I</td>
</tr>
<tr>
<td>or APMA 1655</td>
<td>Statistical Inference I</td>
</tr>
<tr>
<td>Select one of the following Series:</td>
<td></td>
</tr>
</tbody>
</table>

**Series A**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCI 0150</td>
<td>Introduction to Object-Oriented Programming and Computer Science</td>
</tr>
<tr>
<td>&amp; CSCI 0160</td>
<td>and Introduction to Algorithms and Data Structures</td>
</tr>
</tbody>
</table>

**Series B**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCI 0170</td>
<td>Computer Science: An Integrated Introduction</td>
</tr>
<tr>
<td>&amp; CSCI 0180</td>
<td>and Computer Science: An Integrated Introduction</td>
</tr>
</tbody>
</table>

**Series C**

<table>
<thead>
<tr>
<th>Course</th>
<th>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</th>
<th>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>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. 3

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.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 1130</td>
<td>Intermediate Microeconomics (Mathematical)</td>
</tr>
<tr>
<td>ECON 1210</td>
<td>Intermediate Macroeconomics</td>
</tr>
<tr>
<td>ECON 1630</td>
<td>Mathematical Econometrics I</td>
</tr>
<tr>
<td>Three courses from the &quot;mathematical economics&quot; 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):</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 1460</td>
<td>Industrial Organization</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 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 1750</td>
<td>Investments II</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>

and any graduate Economics course

Two additional 1000-level Economics courses excluding 1620, 1960, 1970

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. 6

Total Credits 17

1 CSCI 1450 was formerly known as CSCI 0450; they are the same course and hence only one may be taken for credit. 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 for APMA 1650, APMA 1655, and CSCI 1450.

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

A list of pre-approved pairs may be found at the approved-pairs web page (http://www.cs.brown.edu/ugrad/concentrations/approvedpairs.html). You are not restricted to pairs on this list, but any pair not on the list must be approved by the Computer Science director of undergraduate studies. CS Pathways can be found on the New Pathways (https://www.cs.brown.edu/degrees/undergrad/concentration-requirements/pathways-for-undergraduate-and-masters-students). page.

Or ECON 1110, with permission.

Students may use either ECON 1070 or ECON 1090 toward the concentration, but not both. 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.

One capstone course (http://cs.brown.edu/degrees/undergrad/concentrations/capstone) in either Computer Science or Economics: 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 (preferably at the intersection of computer science and economics) in depth, to produce a culminating artifact such as a paper or software project.

**Standard Program for the A.B. degree:**

**Prerequisites (3 courses):**

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<td>Introductory Calculus, Part II</td>
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<td>Linear Algebra</td>
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<td>Honors Linear Algebra</td>
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<td></td>
</tr>
<tr>
<td>ECON 0110</td>
<td>Principles of Economics</td>
<td></td>
</tr>
</tbody>
</table>

**Required Courses: 13 courses: 7 Computer Science and 6 Economics**

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCI 1450</td>
<td>Probability for Computing and Data Analysis</td>
<td>1</td>
</tr>
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<td></td>
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Select one of the following series:

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</thead>
<tbody>
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</tr>
</tbody>
</table>

**Series B**

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<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCI 0170  &amp; CSCI 0180</td>
<td>Computer Science: An Integrated Introduction and Computer Science: An Integrated Introduction</td>
<td></td>
</tr>
</tbody>
</table>

**Series C**

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</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 0180, an intermediate-level course, or a 1000-level course)</td>
<td></td>
</tr>
</tbody>
</table>

Two of the following intermediate courses, one of which must be math-oriented and one systems-oriented:

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<th>Credits</th>
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</tr>
<tr>
<td>CSCI 0320</td>
<td>Introduction to Software Engineering (systems)</td>
<td></td>
</tr>
</tbody>
</table>

**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 two two-to-four-month full-time professional experiences, doing work that is related to their concentration programs. Such work is normally done within an industrial organization, but may also be at a university under the supervision of a faculty member.

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?

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
The concentration in Contemplative Studies investigates the underlying philosophical, psychological, and scientific bases of human contemplative experience. Students pursue a "third person" academic approach drawn from the humanities and sciences to analyze the cultural, historical, and scientific underpinnings of contemplative experiences in religion, art, music, and literature. This is developed in combination with a "critical first-person" approach based in practical experience of contemplative techniques and methods to provide an integrated understanding of the role of contemplative thought and experience in societies and on the individuals who constitute them.

**Concentration Core (6 courses including the Senior Concentration Seminar)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</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>1</td>
</tr>
<tr>
<td>CLPS 0500</td>
<td>Perception and Mind</td>
<td>1</td>
</tr>
<tr>
<td>NEUR 0010</td>
<td>The Brain: An Introduction to Neuroscience</td>
<td>1</td>
</tr>
<tr>
<td>Others with approval</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COST 0200</td>
<td>Meditation and the Brain</td>
<td>1</td>
</tr>
<tr>
<td>COST 1020</td>
<td>Cognitive Neuroscience of Meditation</td>
<td>1</td>
</tr>
<tr>
<td>COST 1080</td>
<td>Meditation, Mindfulness and Health</td>
<td>1</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>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<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>1</td>
</tr>
<tr>
<td>CLPS 0500</td>
<td>Perception and Mind</td>
<td>1</td>
</tr>
<tr>
<td>NEUR 0010</td>
<td>The Brain: An Introduction to Neuroscience</td>
<td>1</td>
</tr>
<tr>
<td>Others with approval</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COST 0200</td>
<td>Meditation and the Brain</td>
<td>1</td>
</tr>
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<td>COST 1020</td>
<td>Cognitive Neuroscience of Meditation</td>
<td>1</td>
</tr>
<tr>
<td>COST 1080</td>
<td>Meditation, Mindfulness and Health</td>
<td>1</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>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTH 1240</td>
<td>Religion and Culture</td>
<td>1</td>
</tr>
<tr>
<td>CLAS 1120G</td>
<td>The Idea of Self</td>
<td>1</td>
</tr>
<tr>
<td>COST 0040 or RELS 0040</td>
<td>Great Contemplative Traditions of Asia</td>
<td>2</td>
</tr>
<tr>
<td>COST 0145 or RELS 0145</td>
<td>Karma, Rebirth and Liberation: Life and Death in South Asian Religions</td>
<td>2</td>
</tr>
<tr>
<td>COST 0410</td>
<td>Engaged Buddhism</td>
<td>1</td>
</tr>
<tr>
<td>COST 0420</td>
<td>The Theory and Practice of Buddhist Meditation</td>
<td>1</td>
</tr>
<tr>
<td>COST 0450</td>
<td>Stages of the Contemplative Path</td>
<td>1</td>
</tr>
<tr>
<td>PHIL 0010</td>
<td>The Place of Persons</td>
<td>1</td>
</tr>
<tr>
<td>PHIL 0220</td>
<td>Introduction to Philosophy</td>
<td>1</td>
</tr>
<tr>
<td>PHIL 0650</td>
<td>Psychology and Philosophy of Happiness</td>
<td>1</td>
</tr>
<tr>
<td>PHIL 1520</td>
<td>Consciousness</td>
<td>1</td>
</tr>
</tbody>
</table>

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
One statistics course (others with approval) 1
APMA 0650 Essential Statistics
APMA 1650 Statistical Inference I
BIOL 0495 Statistical Analysis of Biological Data
CLPS 0900 Statistical Methods
EDUC 1100 Introduction to Qualitative Research Methods
CLPS 1791 Laboratory in Social Cognition
COST 0200 Meditation and the Brain
COST 1020 Cognitive Neuroscience of Meditation
COST 1080 Meditation, Mindfulness and Health
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

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 Concepts of the Self in Classical Indian Literature
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 0550 Tibetan Buddhism and the West
COST 0855 The Bhagavad Gità (CLAS 0855)
EAST 0180 Japan: Nature, Ritual, and the Arts
EAST 1420 The Confucian Mind
EAST 1880D Early Daoist Syncretism: Zhuang Zi and Huainan Zi
RELS 0045 Buddhism and Death
RELS 0100 Buddhist Thought, Practice, and Society
RELS 0120 The Classical Chinese Philosophy of Life
RELS 1441 Zen Meditation in China, Korea, and Japan
RELS 0570 Science, Religion, and the Search for Happiness in Traditional Asian Thought
RELS 0580 Experiencing the Sacred: Embodiment and Aesthetics in South Asian Religions
RELS 1370 Philosophy of Mysticism
RELS 1425 Buddhist Poetry
RELS 1442 The History, Philosophy, and Practice of Rinzai Zen Buddhism

The Philosophy of Mind

The Pholosophy of Mind

COST 1520 Consciousness
PHIL 0350 Ancient Philosophy
PHIL 0650 Psychology and Philosophy of Happiness
PHIL 0990L Valuing Persons
PHIL 0990M Descartes Meditations
PHIL 1290 Kant's Moral Philosophy
PHIL 1590 Philosophy of Science
PHIL 1650 Moral Theories
PHIL 1660 Metaphysics
PHIL 1720 Kant: The Critique of Pure Reason
PHIL 1750 Epistemology
PHIL 1770 Philosophy of Mind
PHIL 2150G Aristotle's Metaphysics
UNIV 1520 The Shaping of World Views

Others with approval

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 an Honors Thesis to the satisfaction of their advisor and present the results of their studies in formal talks or poster sessions open to all interested faculty and students.

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

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
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
Choose TWO from the following:

- SOC 1620 Globalization and Social Conflict
- POLS 1240 Politics, Markets and States in Developing Countries
- ANTH 0110 Anthropology and Global Social Problems: Environment, Development, and Governance

Seminar in Sociology of Development

IAPA 0010/ ANTH 1871D Sophomore Seminar in Development Studies (Pre-requisites: sophomore or junior standing, and completion of SOC 1620, POLS 1240, or ANTH 0110)

Development Economics - Choose ONE of the following: (ECON 0510 for students with little to no Econ background, ECON 1510 for students with strong Econ backgrounds or double-concentrating in Econ)

- ECON 0510 Development and the International Economy (Prerequisite: ECON 0110, or AP Microeconomics 4 and AP Macroeconomics 4, or IB HL Economics 6)
- ECON 1510 Economic Development (Prerequisite: ECON 1110 or ECON 1130; and APMA 1650 or ECON 1620 or ECON 1630)

Research Methods and Design

- IAPA 1500 Methods in Development Research (junior year)

Regional Courses

Two courses that focus on the same region of the developing world. Should complement the student's foreign language.

Elective Courses

Three courses chosen from a list of pre-approved electives or by special approval.

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.

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 selected 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 its 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>Language</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chinese</td>
<td>CHIN 0100 Basic Chinese &amp; CHIN 0200 Basic Chinese</td>
</tr>
<tr>
<td></td>
<td>CHIN 0300 Intermediate Chinese &amp; CHIN 0400 Intermediate Chinese</td>
</tr>
<tr>
<td></td>
<td>CHIN 0350 Elementary to Intermediate Chinese for Advanced Beginners &amp; CHIN 0450 Advanced Chinese for Heritage Learners</td>
</tr>
<tr>
<td>Japanese</td>
<td>JAPN 0100 Basic Japanese &amp; JAPN 0200 Basic Japanese</td>
</tr>
<tr>
<td></td>
<td>JAPN 0300 Intermediate Japanese &amp; JAPN 0400 Intermediate Japanese</td>
</tr>
<tr>
<td></td>
<td>JAPN 0500 Advanced Japanese I &amp; JAPN 0600 Advanced Japanese I</td>
</tr>
<tr>
<td>Korean</td>
<td>KREA 0100 Korean &amp; KREA 0200 Korean</td>
</tr>
<tr>
<td></td>
<td>KREA 0300 Intermediate Korean &amp; KREA 0400 Intermediate Korean</td>
</tr>
<tr>
<td></td>
<td>KREA 0500 Advanced Korean &amp; KREA 0600 Advanced Korean</td>
</tr>
</tbody>
</table>

Language Electives (language courses that may be counted for concentration credit)

<table>
<thead>
<tr>
<th>Language</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chinese</td>
<td>CHIN 0700 Advanced Modern Chinese II &amp; CHIN 0800 Advanced Modern Chinese II (either course may be taken for one semester)</td>
</tr>
<tr>
<td></td>
<td>CHIN 0920D Business Chinese</td>
</tr>
<tr>
<td></td>
<td>CHIN 0920E Two Sides of the Coin: Advanced Chinese Conversation</td>
</tr>
<tr>
<td></td>
<td>CHIN 1010 Stories from the Chinese Empire: Scholars, Demons and Swindlers</td>
</tr>
</tbody>
</table>

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

- **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>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EAST 0500</td>
<td>Childhood and Culture in Japan 2</td>
</tr>
<tr>
<td>EAST 0650</td>
<td>Language, Culture, and Society: Korea 3</td>
</tr>
<tr>
<td>EAST 1030</td>
<td>Words on Things: Literature and Material Culture in Early Modern China 1</td>
</tr>
<tr>
<td>EAST 1070</td>
<td>China Modern: An Introduction to the Literature of Twentieth-Century China 1</td>
</tr>
<tr>
<td>EAST 1290</td>
<td>The Korea &quot;Brand&quot;: Understanding KPop, Film, and Culture of the Two Koreas in the Global Context 4</td>
</tr>
</tbody>
</table>

For additional elective choices, visit http://brown.edu/academics/east-asian-studies/courses/more-course-offerings.

**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 1951B</td>
<td>From Desktop to Stage: Drama and Performance in Late Imperial China</td>
</tr>
<tr>
<td>EAST 1950G</td>
<td>Market Economy, Popular Culture, and Mass Media in Contemporary China</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, with at least a high B average in concentration courses. Candidates for Honors are required to have developed a competence in an East Asian language sufficient to allow them 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 1930 (Fall) and EAST 1940 (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 still receive academic credit for EAST 1930-1940. 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**
  - 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

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


**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 steppingstone to employment in business, finance, non-profit, and government organizations. Students may choose either the standard or the professional track.

Students are required to begin with ECON 0110, an introductory course that stresses the economic problems of our society, and the vocabulary 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 students must also fulfill a calculus requirement.

The economics department sponsors a number of concentration options. The most popular is the standard economics concentration, 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 in computer science–economics. The first two are especially recommended for students interested in graduate study in economics.

The department offers many of the required courses in an interdepartmental concentration called Business, Entrepreneurship and Organizations (BEO). BEO is jointly run by the departments of economics and sociology, and the school of engineering. BEO has three possible "tracks," of which the business economics track is most closely related to economics. The BEO concentration and all of its current BEO track offerings remain in place through the class of 2023, after which it will be discontinued. Please contact the BEO administrator for more details, including information about advising in that concentration. A new Business Economics track within the economics concentration is now available to classes of 2020 and beyond. Please see the requirements for this track listed below.

**Standard Economics Concentration**

<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 MATH 0100</td>
<td>Introductory Calculus, Part I</td>
<td></td>
</tr>
<tr>
<td>or ECON 0170</td>
<td>Essential Mathematics for Economics</td>
<td></td>
</tr>
<tr>
<td>or a higher-level math course.</td>
<td></td>
<td>2</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>
<tr>
<td>ECON 1210</td>
<td>Intermediate Macroeconomics</td>
<td>1</td>
</tr>
<tr>
<td>ECON 1620</td>
<td>Introduction to Econometrics</td>
<td>1</td>
</tr>
<tr>
<td>or MATH 1620</td>
<td>Mathematical Statistics</td>
<td></td>
</tr>
<tr>
<td>or APMA 1650</td>
<td>Statistical Inference I</td>
<td></td>
</tr>
<tr>
<td>or APMA 1655</td>
<td>Statistical Inference I</td>
<td></td>
</tr>
<tr>
<td>ECON 1629</td>
<td>Applied Research Methods for Economists</td>
<td>1</td>
</tr>
<tr>
<td>or ECON 1630</td>
<td>Mathematical Econometrics</td>
<td></td>
</tr>
<tr>
<td>At least five additional 1000-level Economics courses.</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**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 may 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 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).

**Business Economics Track**

<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 MATH 0100</td>
<td>Introductory Calculus, Part II</td>
<td>1</td>
</tr>
<tr>
<td>or ECON 0170</td>
<td>Essential Mathematics for Economics</td>
<td>1</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>
<tr>
<td>ECON 1210</td>
<td>Intermediate Macroeconomics</td>
<td>1</td>
</tr>
<tr>
<td>ECON 1460</td>
<td>Industrial Organization</td>
<td>1</td>
</tr>
<tr>
<td>ECON 1620</td>
<td>Introduction to Econometrics</td>
<td>1</td>
</tr>
<tr>
<td>or MATH 1620</td>
<td>Mathematical Statistics</td>
<td></td>
</tr>
<tr>
<td>or APMA 1650</td>
<td>Statistical Inference I</td>
<td></td>
</tr>
<tr>
<td>or APMA 1655</td>
<td>Statistical Inference I</td>
<td></td>
</tr>
<tr>
<td>ECON 1629</td>
<td>Applied Research Methods for Economists</td>
<td>1</td>
</tr>
<tr>
<td>or ECON 1630</td>
<td>Mathematical Econometrics</td>
<td></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>ECON 1770</td>
<td>Investments II</td>
<td>1</td>
</tr>
<tr>
<td>ECON 1870</td>
<td>Game Theory and Applications to Economics</td>
<td></td>
</tr>
</tbody>
</table>

**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 may 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.

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**

Students who wish to pursue honors in economics should consult the department's undergraduate web site to obtain a complete description of the requirements. See the description of Capstone Projects there, as well.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Courses taken to prepare an honors thesis are in addition to the regular concentration requirements.

**Professional Track**

Students wishing to complete the Professional Track for either the standard concentration or the Business Economics track will complete the requirements for the standard/Business Economics track, as well as the following:

- Students must complete two two-to-four month full-time professional experiences, doing work that is related to their concentration programs. Such work is normally done at a company, but may also be at a university under the supervision of a faculty member.

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 multi-disciplinary approach to the field, offering courses from perspectives in anthropology, economics, history, human development, political science, social work, and sociology, among others.

For more information, please visit our website (https://education.brown.edu/academics/undergraduate) or contact John Papay (john_papay@brown.edu?subject=Education concentration), Director of Undergraduate Studies.

**Concentration Requirements**

Redesigned for the 2020-2021 academic year, the concentration in Education Studies requires a total of 10 credit-bearing courses and 1 non-credit-bearing experiential component, allowing students to develop a personalized plan of study to structure their Education experiences. The new Education Studies coursework is as follows:

- **3 Core Courses**: 2 introductory courses (EDUC 0300 and EDUC 0750) 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.
- **4 Specialization Courses**: Students must take 4 courses total in their chosen area of emphasis (Education Policy and Practice; 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) within the education field.
- **3 Elective courses related to the field of education and the student's field of study. Only 1 independent study can count 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.

- **1 Experiential Component**: By the end of fall 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 three ways:
  - a. By completing an existing Community-Based Learning and Research (CBLR) in the Department.
  - b. By writing a paper reflecting on their experience through the lens of their coursework in the Department. The student’s academic advisor will assess the paper. It is to be completed independently of coursework and is not credit bearing (although students may do it as an additional assignment associated with a class they are taking).
  - c. 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</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC 0300</td>
<td>Introduction to Education and Society: Foundations of Opportunity and Inequality</td>
</tr>
<tr>
<td>EDUC 0750</td>
<td>Evidence and Method in Education Research</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</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC 0410A</td>
<td>New Faces, New Challenges: Immigrant Students in U.S. Schools</td>
</tr>
<tr>
<td>EDUC 0410B</td>
<td>Controversies in American Education Policy: A Multidisciplinary Approach</td>
</tr>
<tr>
<td>EDUC 0410G</td>
<td>The Afterschool Hours</td>
</tr>
<tr>
<td>EDUC 0600</td>
<td>Juveniles for Justice: Youth Civic Engagement and Activism</td>
</tr>
<tr>
<td>EDUC 0610</td>
<td>Brown v. Board of Education</td>
</tr>
<tr>
<td>EDUC 0620</td>
<td>Cradle of Inequality: The Role of Families, Schools, and Neighborhoods</td>
</tr>
<tr>
<td>EDUC 0800</td>
<td>Introduction to Human Development and Education</td>
</tr>
<tr>
<td>EDUC 0860</td>
<td>Sports in American Society</td>
</tr>
<tr>
<td>EDUC 0900</td>
<td>Fieldwork and Seminar in Secondary Education</td>
</tr>
<tr>
<td>EDUC 1010</td>
<td>The Craft of Teaching</td>
</tr>
<tr>
<td>EDUC 1020</td>
<td>The History of American Education</td>
</tr>
<tr>
<td>EDUC 1030</td>
<td>Comparative Education</td>
</tr>
<tr>
<td>EDUC 1040</td>
<td>Sociology of Education</td>
</tr>
<tr>
<td>EDUC 1045</td>
<td>Sociology of Higher Education</td>
</tr>
<tr>
<td>EDUC 1050</td>
<td>History of African-American Education</td>
</tr>
<tr>
<td>EDUC 1060</td>
<td>Politics and Public Education</td>
</tr>
<tr>
<td>EDUC 1090</td>
<td>Adolescent Literature</td>
</tr>
<tr>
<td>EDUC 1100</td>
<td>Introduction to Qualitative Research Methods</td>
</tr>
<tr>
<td>EDUC 1110</td>
<td>Introductory Statistics for Education Research and Policy Analysis</td>
</tr>
<tr>
<td>EDUC 1130</td>
<td>Economics of Education I</td>
</tr>
</tbody>
</table>
### Undergraduate Concentrations

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC 1150</td>
<td>Education, the Economy and School Reform</td>
</tr>
<tr>
<td>EDUC 1270</td>
<td>Adolescence in Social Context</td>
</tr>
<tr>
<td>EDUC 1380</td>
<td>Language and Education Policy in Multilingual Contexts</td>
</tr>
<tr>
<td>EDUC 1430</td>
<td>Social Psychology of Race, Class, and Gender</td>
</tr>
<tr>
<td>EDUC 1450</td>
<td>The Psychology of Teaching and Learning</td>
</tr>
<tr>
<td>EDUC 1520</td>
<td>Ethnic Studies &amp; Education</td>
</tr>
<tr>
<td>EDUC 1580</td>
<td>Cross-Cultural Perspectives on Child Development</td>
</tr>
<tr>
<td>EDUC 1650</td>
<td>Policy Implementation in Education</td>
</tr>
<tr>
<td>EDUC 1690</td>
<td>Literacy, Community, and the Arts: Theory into Practice</td>
</tr>
<tr>
<td>EDUC 1720</td>
<td>Urban Schools in Historical Perspective</td>
</tr>
<tr>
<td>EDUC 1760A</td>
<td>Beauty Pageants as an American Institution</td>
</tr>
<tr>
<td>EDUC 1730</td>
<td>American Higher Education in Historical Context</td>
</tr>
<tr>
<td>EDUC 1850</td>
<td>Moral Development and Education</td>
</tr>
<tr>
<td>EDUC 1860</td>
<td>Social Context of Learning and Development</td>
</tr>
<tr>
<td>EDUC 1870</td>
<td>Education and Human Development in East Asia</td>
</tr>
<tr>
<td>EDUC 1890</td>
<td>Family Engagement in Education</td>
</tr>
</tbody>
</table>

#### Foundational course in Education (from the table above) 3

#### Electives 3

#### Experiential Component 1

**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 and EDUC 1910, in which they write a senior thesis under the guidance of a thesis advisor. Honors are awarded on the basis of thesis quality. Students whose theses meet or exceed the standards established in the Department Rubric earn honors upon graduation. Students interested in writing an Honors thesis should contact David Rangel, the Honors/Capstone Advisor.

### Capstone

Capstones are voluntary, student-initiated projects or experiences outside the classroom that build on and contribute to students’ Education Studies concentration. They can take various forms, including a research project, website design, curriculum design, policy analysis, or scholarly paper. Capstones can be designed and executed in the senior year, or can be based on a previous experience that the student wants to explore further in some way, such as an internship or teaching experience. While capstones do not confer academic credit or departmental honors, students who complete capstones will be recognized at the department graduation ceremony and will have the opportunity to present their work at a conference in the spring of their senior year. Through capstones, students have the opportunity to work closely with a faculty member in an area of their interest and are able to reflect on and extend their learning in the concentration.

### Concurrent Baccalaureate/Master of Arts in Teaching Degree

Beginning in 2020-2021, the Education Department offers a concurrent degree program in which Brown undergraduates can apply to earn a B.A. or B.S. in a subject field (English, history, math, biology, chemistry, physics, engineering and allied concentrations) and MAT degree in 5 years.

Brown undergraduates can apply through the Education Department during their junior year. During their first four 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 the concurrent baccalaureate/MAT degree.

### Engaged Scholars Program

The Engaged Scholars Program (http://brown.edu/go/engagedscholars) (ESP) in Education is intended for Education Studies concentrators interested in making connections between their concentration curriculum and long-term engagement, including internships, public service, humanitarian and development work, school-based education work, social service in education, or other forms of community and clinical involvement. The program combines preparation, experience, and reflection to provide students with opportunities to integrate academic learning and social engagement. (Note: This program is separate from the department’s required experiential component.). Students can learn more about the program and its requirements on the ESP in Education website (https://education.brown.edu/academics/undergraduate/engaged-scholars-program).

### 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:**

| ASYR 0800 | The Cradle of Civilization? An Introduction to the Ancient Near East |
| ASYR 0800 or ARCH 1600 | Archaeologies of the Near East |
| ASYR 1000 | Introduction to Akkadian |
| ASYR 1010 | Intermediate Akkadian |

**Foundational Courses** (at least one course from each of the following three areas):

**History and Culture of Ancient Western Asia:**

| ASYR 1100 | Imagining the Gods: Myths and Myth-making in Ancient Mesopotamia (WRIT) |
| ASYR 1300 | The Age of Empires: The Ancient Near East in the First Millennium BC |
| ASYR 1500 | Ancient Babylonian Magic and Medicine |
| ASYR 2310B | Assyriology I (WRIT) |
| ASYR 2310C | Assyriology II (WRIT) |
| ASYR 2600 | Topics in Cuneiform Studies |

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
## 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>EGYT 1420 or ARCH 1625</td>
<td>Ancient Egyptian Religion and Magic, Temples and Tombs: Egyptian Religion and Culture</td>
</tr>
<tr>
<td>ARCH 0150</td>
<td>Introduction to Egyptian Archaeology and Art</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 Midje Medium Egyptian Hieroglyphic Texts</td>
</tr>
<tr>
<td>EGYT 1410</td>
<td>Ancient Egyptian Literature</td>
</tr>
</tbody>
</table>

### Breadth Course - Any course covering 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 0800</td>
<td>The Cradle of Civilization? An Introduction to the Ancient Near East</td>
</tr>
<tr>
<td>or ARCH 1600</td>
<td>Archaeologies of the Near East</td>
</tr>
</tbody>
</table>

### Elective Courses:

Any course germane to ancient Egypt or the ancient Near East or Mediterranean world. Alternative and elective courses must be approved by the undergraduate concentration advisor. Such courses will normally be offered by Egyptology and Assyriology, the Joukowsky Institute for Archaeology and the Ancient World, Religious Studies, Classics, Judaic Studies, Anthropology, History of Art and Architecture, History, or Philosophy. Concentrators are welcome to take most courses offered by Egyptology and Assyriology (EGYT and ASYR), Archaeology (ARCH), or related departments, though some may require the instructor’s approval. Concentrators should consult with the concentration advisor to discuss the courses most suitable to their interests.

### 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

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
In order to receive honors a student must be found to have:

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:

- Enrollment 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, students will 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.
- 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 original, and may engage with a well-studied topic, 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, and 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, mechanical, and materials engineering are accredited by the Engineering Accreditation Commission of ABET (http://www.abet.org). The Sc.B. degree program in environmental engineering is not currently accredited by the Engineering Accreditation Commission of ABET, but will seek accreditation during the 2020-21 academic year. 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. Engineering students with a particular interest in using their technical skills for the public benefit might also consider the Engaged Scholars Program (https://www.brown.edu/academics/engineering/undergraduate-study/engaged-scholars-program).

Please note that all student concentration forms must be approved by the Engineering Concentration Committee, which reviews them for compliance with all relevant program and accreditation requirements.

Mathematics

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 second semester. Students without one year of secondary school level preparation in calculus should take MATH 0090, MATH 0100 in their first year, and should begin their sequence of engineering courses with ENGN 0030 in sophomore year. The courses APMA 0330 & APMA 0340 (Methods of Applied Math I, II) can be taken in the sophomore year as well.

**Advanced Placement**

Students who have taken Advanced Placement courses in high school and/or have shown proficiency through advanced placement examinations are often able to start at a higher level than suggested by the standard programs below. However, please note that Advanced Placement credit cannot be used to satisfy any concentration requirements. For example, our Sc.B. programs specify that students must take 4 semesters of math while enrolled here at Brown, beginning with MATH 0190 or MATH 0170. If a student comes in with advanced placement credit (e.g. placing out of MATH 0190 or MATH 0200), he/she is strongly recommended to take 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). However, the student with advanced placement credit for MATH 0190 or MATH 0200 also has the option of replacing the math course with an advanced-level science course, subject to the approval of the concentration advisor.

**Transfer Credit**

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, or contact the Dean of the College.) Transfer courses that are used to meet Engineering concentration requirements must be approved by the student’s concentration advisor, and must be described briefly on the student’s electronic concentration form. Transfer courses that are determined by the concentration advisor to be substantially equivalent to a required Brown course automatically fulfill concentration requirements. In rare cases, students may petition the concentration committee to use courses that do not have an equivalent offered at Brown 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.

**Substitutions for Required Courses**

A student may petition the Concentration Adviser to substitute a course in place of a 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 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 approved by the Concentration Adviser. (For courses taken elsewhere, the credit must be officially transferred.) Students wishing to make substitutions of a broader nature should consult their Concentration Adviser for assistance with drafting their petition to the Engineering Concentration Committee, which may be approved by a majority vote.

**Standard Program for the A.B. degree:**

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. Please note that this A.B. degree program is not accredited by ABET.

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 1010. 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 0330, as well as at least one college-level science course from the general areas of chemistry, life sciences, physics, or geological sciences. Remedial courses, such as CHEM 0100, cannot be used to satisfy this requirement. A programming course is also recommended, but not required. The entire program is subject to approval by an Engineering Concentration Advisor and the Chair of the Engineering Concentration Committee.

**Standard programs 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 students to practice engineering in an age of rapidly changing technology. The A.B. program also provides students with the basis of theory, design, and analysis that will enable them to adapt to whatever may come along during their careers.

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 program.

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 Concentrations**

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 adviser, 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 ScB engineering concentrations; (iii) a detailed description of any independent study courses used for concentration credit, signed by the faculty adviser 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 two full-time professional experiences, lasting two to four months each (or two part-time experiences of equivalent total effort), doing work that is related to their concentration programs. Such work is normally done within an industrial organization, but may also be done at a university under the supervision of a faculty member. For the work to be considered related to a concentration program, the job responsibilities must make use of the material from one or more courses of the concentration (regardless of whether the student has taken those courses or not at the time of the internship). On 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 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 adviser.

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.

**Chemical Engineering Track:**

The Chemical Engineering program is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org. The education objectives of the Chemical Engineering program are to prepare graduates: (1) to pursue productive scientific and technical careers, beginning with entry-level engineering positions in industry, or graduate study in chemical engineering or related fields; or to successfully pursue other careers that benefit from the analytical or quantitative skills acquired through the Brown ChE Program; (2) to effectively apply the principles of chemical engineering, problem-solving skills, and critical and independent thinking, to a broad range of complex, multidisciplinary technological and societal problems; (3) to communicate effectively, both orally and in writing, to professionals and audiences of diverse backgrounds, and to pursue technical approaches and innovations 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

2. **Upper-Level Chemical & Biochemical Engineering Curriculum**
   - ENGN 1110 Transport and Biotransport Processes 1
   - ENGN 1120 Reaction Kinetics and Reactor Design 1
   - ENGN 1130 Chemical Engineering Thermodynamics 1
   - ENGN 1710 Heat and Mass Transfer 1
   - CHEM 0350 Organic Chemistry 1

Advanced Chemistry elective course 2
   - CHEM 0360 Organic Chemistry 1
   - or CHEM 0400 Biophysical and Bioinorganic Chemistry 1
   - or CHEM 0500 Inorganic Chemistry 1
   - or CHEM 1140 Physical Chemistry: Quantum Chemistry 1

Advanced Natural Sciences elective course 3
   - CHEM 1140 Chemical Process Design 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. **Note:** ENGN 1120 and 1130 are only offered in alternate years.
2. **An advanced chemistry course approved by concentration advisor; the following courses are pre-approved for this requirement:**
3. **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. The education objectives of the Computer Engineering program are to prepare graduates: (1) to pursue distinctive multidisciplinary scientific and technical careers beginning with either entry-level computer engineering positions in industry or graduate study in computer engineering and related fields; (2) to participate on multidisciplinary teams that cooperate in applying problem-solving skills and critical and independent thinking to a broad range of projects that can produce the technical innovations aimed at satisfying the future needs of society. 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

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>ENGN 0031</td>
<td>Honors Introduction to Engineering</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>ENGN 0520</td>
<td>Electrical Circuits and Signals</td>
</tr>
<tr>
<td>APMA 1650</td>
<td>Statistical Inference I</td>
</tr>
<tr>
<td>or APMA 1655</td>
<td>Statistical Inference I</td>
</tr>
<tr>
<td>or CSCI 1450</td>
<td>Probability for Computing and Data Analysis</td>
</tr>
<tr>
<td>MATH 0190</td>
<td>Advanced Placement Calculus (Physics/Engineering)</td>
</tr>
<tr>
<td>or MATH 0170</td>
<td>Advanced Placement Calculus</td>
</tr>
<tr>
<td>MATH 0200</td>
<td>Intermediate Calculus (Physics/Engineering)</td>
</tr>
<tr>
<td>or MATH 0180</td>
<td>Intermediate Calculus</td>
</tr>
<tr>
<td>or MATH 0350</td>
<td>Honors Calculus</td>
</tr>
<tr>
<td>APMA 0330</td>
<td>Methods of Applied Mathematics I, II</td>
</tr>
<tr>
<td>or APMA 0350</td>
<td>Applied Ordinary Differential Equations</td>
</tr>
<tr>
<td>or APMA 1170</td>
<td>Introduction to Computational Linear Algebra</td>
</tr>
<tr>
<td>or APMA 1710</td>
<td>Information Theory</td>
</tr>
<tr>
<td>or CSCI 0220</td>
<td>Introduction to Discrete Structures and Probability</td>
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<tr>
<td>or CSCI 1570</td>
<td>Design and Analysis of Algorithms</td>
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<tr>
<td>or MATH 1260</td>
<td>Complex Analysis</td>
</tr>
<tr>
<td>CHEM 0330</td>
<td>Equilibrium, Rate, and Structure</td>
</tr>
<tr>
<td>or ENGN 0410</td>
<td>Materials Science</td>
</tr>
<tr>
<td>or NEUR 0010</td>
<td>The Brain: An Introduction to Neuroscience</td>
</tr>
</tbody>
</table>

Select one of the following series (other CSCI courses subject to approval):

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCI 0150 &amp; CSCI 0160</td>
<td>Introduction to Object-Oriented Programming and Computer Science and Introduction to Algorithms and Data Structures</td>
</tr>
<tr>
<td>CSCI 0170 &amp; CSCI 0180</td>
<td>Computer Science: An Integrated Introduction and Computer Science: An Integrated Introduction</td>
</tr>
<tr>
<td>CSCI 0190</td>
<td>Accelerated Introduction to Computer Science (and one additional CSCI course subject to approval)</td>
</tr>
</tbody>
</table>

2. Upper-Level Computer Engineering Curriculum:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGN 1570</td>
<td>Linear System Analysis</td>
</tr>
<tr>
<td>ENGN 1630</td>
<td>Digital Electronics Systems Design</td>
</tr>
<tr>
<td>ENGN 1640</td>
<td>Design of Computing Systems</td>
</tr>
<tr>
<td>MATH 0520</td>
<td>Linear Algebra</td>
</tr>
<tr>
<td>or MATH 0540</td>
<td>Honors Linear Algebra</td>
</tr>
<tr>
<td>One advanced Computer Engineering foundations course:</td>
<td></td>
</tr>
<tr>
<td>ENGN 1580</td>
<td>Communication Systems</td>
</tr>
<tr>
<td>ENGN 1600</td>
<td>Design and Implementation of Digital Integrated Circuits</td>
</tr>
<tr>
<td>ENGN 1610</td>
<td>Image Understanding</td>
</tr>
<tr>
<td>ENGN 1620</td>
<td>Analysis and Design of Electronic Circuits</td>
</tr>
<tr>
<td>ENGN 2530</td>
<td>Digital Signal Processing</td>
</tr>
</tbody>
</table>

One advanced Computer Science course with significant systems programming:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCI 0330</td>
<td>Introduction to Computer Systems</td>
</tr>
<tr>
<td>or CSCI 0320</td>
<td>Introduction to Software Engineering</td>
</tr>
<tr>
<td>or CSCI 1230</td>
<td>Introduction to Computer Graphics</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>
</tbody>
</table>

Select three upper-level electives from the list below (other ENGN or CSCI courses subject to approval). At least one must be an ENGN course and at least one must be a CSCI course. |

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGN 1220</td>
<td>Neuroengineering</td>
</tr>
<tr>
<td>ENGN 1450</td>
<td>Properties and Processing of Electronic Materials</td>
</tr>
<tr>
<td>ENGN 1560</td>
<td>Optics</td>
</tr>
<tr>
<td>ENGN 1580</td>
<td>Communication Systems</td>
</tr>
<tr>
<td>ENGN 1590</td>
<td>Introduction to Semiconductors and Semiconductor Electronics</td>
</tr>
<tr>
<td>ENGN 1600</td>
<td>Design and Implementation of Digital Integrated Circuits</td>
</tr>
<tr>
<td>ENGN 1610</td>
<td>Image Understanding</td>
</tr>
<tr>
<td>ENGN 1620</td>
<td>Analysis and Design of Electronic Circuits</td>
</tr>
<tr>
<td>ENGN 1680</td>
<td>Design and Fabrication of Semiconductor Devices</td>
</tr>
<tr>
<td>ENGN 1690</td>
<td>Photonics Devices and Sensors</td>
</tr>
<tr>
<td>ENGN 1930B</td>
<td>Biomedical Optics</td>
</tr>
<tr>
<td>ENGN 1931A</td>
<td>Photovoltaics Engineering</td>
</tr>
<tr>
<td>ENGN 1931F</td>
<td>Introduction to Power Engineering</td>
</tr>
<tr>
<td>ENGN 1931I</td>
<td>Design of Robotic Systems</td>
</tr>
<tr>
<td>ENGN 1931Y</td>
<td>Control Systems Engineering</td>
</tr>
<tr>
<td>ENGN 1931Z</td>
<td>Interfaces, Information and Automation</td>
</tr>
<tr>
<td>ENGN 2520</td>
<td>Pattern Recognition and Machine Learning</td>
</tr>
<tr>
<td>ENGN 2530</td>
<td>Digital Signal Processing</td>
</tr>
<tr>
<td>ENGN 2560</td>
<td>Computer Vision</td>
</tr>
<tr>
<td>ENGN 2610</td>
<td>Physics of Solid State Devices</td>
</tr>
<tr>
<td>ENGN 2620</td>
<td>Solid State Quantum and Optoelectronics</td>
</tr>
<tr>
<td>ENGN 2910A</td>
<td>Advanced Computer Architecture</td>
</tr>
<tr>
<td>ENGN 2911X</td>
<td>Reconfigurable Computing for Machine/Deep Learning</td>
</tr>
<tr>
<td>ENGN 2912B</td>
<td>Scientific Programming in C++</td>
</tr>
<tr>
<td>ENGN 2912E</td>
<td>Low Power VLSI System Design</td>
</tr>
<tr>
<td>CSCI 0320</td>
<td>Introduction to Software Engineering</td>
</tr>
<tr>
<td>CSCI 1230</td>
<td>Introduction to Computer Graphics</td>
</tr>
<tr>
<td>CSCI 1270</td>
<td>Database Management Systems</td>
</tr>
<tr>
<td>CSCI 1300</td>
<td>User Interfaces and User Experience</td>
</tr>
<tr>
<td>CSCI 1320</td>
<td>Creating Modern Web &amp; Mobile Applications</td>
</tr>
<tr>
<td>CSCI 1380</td>
<td>Distributed Computer Systems</td>
</tr>
<tr>
<td>CSCI 1410</td>
<td>Artificial Intelligence</td>
</tr>
<tr>
<td>CSCI 1480</td>
<td>Building Intelligent Robots</td>
</tr>
<tr>
<td>CSCI 1570</td>
<td>Design and Analysis of Algorithms</td>
</tr>
<tr>
<td>CSCI 1600</td>
<td>Real-Time and Embedded Software</td>
</tr>
<tr>
<td>CSCI 1660</td>
<td>Introduction to Computer Systems Security</td>
</tr>
<tr>
<td>CSCI 1670</td>
<td>Operating Systems</td>
</tr>
<tr>
<td>CSCI 1680</td>
<td>Computer Networks</td>
</tr>
<tr>
<td>CSCI 1730</td>
<td>Design and Implementation of Programming Languages</td>
</tr>
<tr>
<td>CSCI 1760</td>
<td>Multiprocessor Synchronization</td>
</tr>
<tr>
<td>CSCI 1900</td>
<td>csciStartup</td>
</tr>
</tbody>
</table>

3. Capstone Design

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGN 1650</td>
<td>Embedded Microprocessor Design</td>
</tr>
<tr>
<td>or ENGN 1000</td>
<td>Projects in Engineering Design I</td>
</tr>
<tr>
<td>or ENGN 1001</td>
<td>Projects in Engineering Design II</td>
</tr>
</tbody>
</table>

4. General Education Requirement: At least four approved courses must be taken in humanities and social sciences.

Total Credits: 21

* Or Biology course beyond BIOL 0200 subject to Concentration Advisor approval

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

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 1970/ENGN 1971) 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.

### Electrical Engineering Track:
The Electrical Engineering program is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org. The education objectives of the Electrical Engineering program are to prepare graduates:

1. To pursue distinctive multidisciplinary scientific and technical careers beginning with either entry-level electrical engineering positions in industry or graduate study in electrical engineering and related fields;
2. To participate on multidisciplinary teams that cooperate in applying problem-solving skills and critical and independent thinking to a broad range of projects that can produce the technical innovations aimed at satisfying the future needs of society. 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>
</tr>
</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>
<td>1</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 0810</td>
<td>Fluid Mechanics</td>
<td>1</td>
</tr>
<tr>
<td>or CSCI 0160</td>
<td>Introduction to Algorithms and Data Structures</td>
<td>1</td>
</tr>
<tr>
<td>or CSCI 0180</td>
<td>Computer Science: An Integrated Introduction</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 0330</td>
<td>Equilibrium, Rate, and Structure</td>
<td>1</td>
</tr>
<tr>
<td>MATH 0190</td>
<td>Advanced Placement Calculus (Physics/Engineering)</td>
<td>1</td>
</tr>
<tr>
<td>or MATH 0170</td>
<td>Advanced Placement Calculus</td>
<td>1</td>
</tr>
<tr>
<td>MATH 0200</td>
<td>Intermediate Calculus (Physics/Engineering)</td>
<td>1</td>
</tr>
<tr>
<td>or MATH 0180</td>
<td>Intermediate Calculus</td>
<td>1</td>
</tr>
<tr>
<td>or MATH 0350</td>
<td>Honors Calculus</td>
<td>1</td>
</tr>
<tr>
<td>APMA 0330</td>
<td>Methods of Applied Mathematics I, II</td>
<td>1</td>
</tr>
<tr>
<td>or APMA 0350</td>
<td>Applied Ordinary Differential Equations</td>
<td>1</td>
</tr>
<tr>
<td>APMA 0340</td>
<td>Methods of Applied Mathematics I, II</td>
<td>1</td>
</tr>
<tr>
<td>or APMA 0360</td>
<td>Applied Partial Differential Equations I</td>
<td>1</td>
</tr>
<tr>
<td>or APMA 1650</td>
<td>Statistical Inference I</td>
<td>1</td>
</tr>
<tr>
<td>or APMA 1710</td>
<td>Information Theory</td>
<td>1</td>
</tr>
<tr>
<td>or MATH 0520</td>
<td>Linear Algebra</td>
<td>1</td>
</tr>
<tr>
<td>or MATH 0540</td>
<td>Honors Linear Algebra</td>
<td>1</td>
</tr>
<tr>
<td>CSCI 0150</td>
<td>Introduction to Object-Oriented Programming and Computer Science</td>
<td>1</td>
</tr>
<tr>
<td>or CSCI 0040</td>
<td>Introduction to Scientific Computing and Problem Solving</td>
<td>1</td>
</tr>
<tr>
<td>or CSCI 0111</td>
<td>Computing Foundations: Data</td>
<td>1</td>
</tr>
<tr>
<td>or CSCI 0170</td>
<td>Computer Science: An Integrated Introduction</td>
<td>1</td>
</tr>
<tr>
<td>or CSCI 0190</td>
<td>Accelerated Introduction to Computer Science</td>
<td>1</td>
</tr>
<tr>
<td>or APMA 0160</td>
<td>Introduction to Scientific Computing</td>
<td>1</td>
</tr>
<tr>
<td>or ENGN 1931Z</td>
<td>Interfaces, Information and Automation</td>
<td>1</td>
</tr>
</tbody>
</table>

#### 2. Upper-Level Electrical Engineering Curriculum

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGN 1570</td>
<td>Linear System Analysis</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 1630</td>
<td>Digital Electronics Systems Design</td>
<td>1</td>
</tr>
<tr>
<td>PHYS 0790</td>
<td>Physics of Matter</td>
<td>1</td>
</tr>
<tr>
<td>or PHYS 1410</td>
<td>Quantum Mechanics A</td>
<td>1</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 Introduction to Semiconductors and Semiconductor Electronics
  - 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 Optics
  - 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
  - CSCI 0330 Introduction to Computer Systems  
  - 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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>or 1000-level Applied Mathematics or Mathematics course subject to Concentration Advisor Approval</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>or ENGN 1931Z may replace CSCI 0150 or meet an elective requirement, but not both.</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>or 2000-level Electrical Engineering graduate course (such as ENGN 2500, ENGN 2520, ENGN 2530, ENGN 2560, ENGN 2912K).</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>or Computer Science course beyond CSCI 0150/CSCI 0170 subject to Concentration Advisor approval</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Subject to approval by the concentration advisor, an independent study course (ENGN 1970/ENGN 1971) 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.

Environmental Engineering Track:

Brown’s Environmental Engineering program was launched in 2013. The first graduates completed the program with the Sc.B. degree in Environmental Engineering in Spring 2017. The program has graduated Sc.B. degree recipients every year since then. The program will seek accreditation from the Engineering Accreditation Commission of ABET during Brown’s upcoming review period in 2020-2021 when the rest of the School of Engineering’s existing accredited programs will be reviewed. The education objectives of the program are: (1) to prepare students to pursue scientific or technical careers, starting with entry-level positions in industry, or in graduate study in environmental engineering; (2) to develop their ability to solve problems related to environmental pollution, protection, and sustainability. 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>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGN 0030</td>
<td>Introduction to Engineering</td>
<td>1</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 0490</td>
<td>Fundamentals of Environmental Engineering</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 0810</td>
<td>Fluid Mechanics</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 0200</td>
<td>The Foundation of Living Systems</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 0330</td>
<td>Equilibrium, Rate, and Structure</td>
<td>1</td>
</tr>
<tr>
<td>MATH 0190</td>
<td>Advanced Placement Calculus (Physics/Engineering)</td>
<td>1</td>
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<tr>
<td>or MATH 0170</td>
<td>Advanced Placement Calculus (Engineering)</td>
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<tr>
<td>MATH 0200</td>
<td>Intermediate Calculus (Physics/Engineering)</td>
<td>1</td>
</tr>
<tr>
<td>or MATH 0180</td>
<td>Intermediate Calculus</td>
<td>1</td>
</tr>
<tr>
<td>or MATH 0350</td>
<td>Honors Calculus</td>
<td>1</td>
</tr>
<tr>
<td>APMA 0330</td>
<td>Methods of Applied Mathematics I, II</td>
<td>1</td>
</tr>
<tr>
<td>or APMA 0350</td>
<td>Applied Ordinary Differential Equations</td>
<td>1</td>
</tr>
<tr>
<td>APMA 0650</td>
<td>Essential Statistics</td>
<td>1</td>
</tr>
<tr>
<td>or APMA 1650</td>
<td>Statistical Inference</td>
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</tr>
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2. Advanced Science Courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EEPS 1370</td>
<td>Environmental Geochemistry</td>
</tr>
<tr>
<td>or EEPS 1310</td>
<td>Global Water Cycle</td>
</tr>
<tr>
<td>or EEPS 1330</td>
<td>Global Environmental Remote Sensing</td>
</tr>
<tr>
<td>or EEPS 1520</td>
<td>Ocean Circulation and Climate</td>
</tr>
<tr>
<td>or EEPS 1580</td>
<td>Quantitative Elements of Physical Hydrology</td>
</tr>
<tr>
<td>or EEPS 1960B</td>
<td>Special Topics in Geological Sciences: Physical Hydrology</td>
</tr>
<tr>
<td>BIOL 0415</td>
<td>Microbes in the Environment</td>
</tr>
<tr>
<td>or BIOL 0420</td>
<td>Principles of Ecology</td>
</tr>
<tr>
<td>or BIOL 0480</td>
<td>Evolutionary Biology</td>
</tr>
</tbody>
</table>

3. Upper-Level Environmental Engineering Curriculum (5 Credits):

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGN 1340</td>
<td>Water Supply and Treatment Systems - Technology and Sustainability</td>
</tr>
<tr>
<td>ENGN 1931P</td>
<td>Energy and the Environment</td>
</tr>
<tr>
<td>Three advanced Engineering courses from the list below:</td>
<td></td>
</tr>
</tbody>
</table>
| 1
| ENGN 1110   | Transport and Biotransport Processes              | 1 |
| ENGN 1120   | Reaction Kinetics and Reactor Design              | 1 |
| ENGN 1130   | Chemical Engineering Thermodynamics               | 1 |
| ENGN 1710   | Heat and Mass Transfer                            | 1 |
| ENGN 1860   | Advanced Fluid Mechanics                          | 1 |
| ENGN 1930U  | Renewable Energy Technologies                      | 1 |
| ENGN 1931A  | Photovoltaics Engineering                         | 1 |
| ENGN 1931F  | Introduction to Power Engineering                 | 1 |
| ENGN 1931R  | Chemistry of Environmental Pollution              | 1 |
| ENGN 2911P  | Fate and Transport of Environmental Contaminants  | 1 |

4. Capstone Design

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGN 1150</td>
<td>Environmental Engineering Design</td>
</tr>
</tbody>
</table>

* In addition to program requirements above, students must take four courses in the humanities and social sciences.

Total Credits: 21

1. Or any other advanced Engineering course approved by the concentration advisor
2. Subject to approval by the concentration advisor, an independent study course (ENGN 1970/1971) 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: http://www.brown.edu/academics/engineering/undergraduate-study

Materials Engineering Track:

The Materials Engineering program is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org. The education objectives of the Materials Engineering program are to prepare graduates: (1) to pursue multidisciplinary scientific and technical careers beginning with entry-level engineering positions in industry or graduate study in materials science and engineering and related fields; (2) to apply an engineering problem-solving approach combined with a broad appreciation for the liberal arts to inform and develop their understanding of current societal needs and values to achieve leadership positions in their chosen fields of endeavor. 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>
</tr>
</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>
<td>1</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 0490</td>
<td>Fundamentals of Environmental Engineering</td>
<td>1</td>
</tr>
<tr>
<td>ENGN 0510</td>
<td>Electricity and Magnetism</td>
<td>1</td>
</tr>
<tr>
<td>or 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 0810</td>
<td>Fluid Mechanics</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 0200</td>
<td>The Foundation of Living Systems</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 0330</td>
<td>Equilibrium, Rate, and Structure</td>
<td>1</td>
</tr>
<tr>
<td>MATH 0190</td>
<td>Advanced Placement Calculus (Physics/Engineering)</td>
<td>1</td>
</tr>
<tr>
<td>or MATH 0170</td>
<td>Advanced Placement Calculus (Engineering)</td>
<td></td>
</tr>
<tr>
<td>MATH 0200</td>
<td>Intermediate Calculus (Physics/Engineering)</td>
<td>1</td>
</tr>
<tr>
<td>or MATH 0180</td>
<td>Intermediate Calculus</td>
<td>1</td>
</tr>
<tr>
<td>or MATH 0350</td>
<td>Honors Calculus</td>
<td>1</td>
</tr>
<tr>
<td>APMA 0330</td>
<td>Methods of Applied Mathematics I, II</td>
<td>1</td>
</tr>
<tr>
<td>or APMA 0350</td>
<td>Applied Ordinary Differential Equations</td>
<td>1</td>
</tr>
<tr>
<td>APMA 0650</td>
<td>Essential Statistics</td>
<td>1</td>
</tr>
<tr>
<td>or APMA 1650</td>
<td>Statistical Inference</td>
<td>1</td>
</tr>
</tbody>
</table>

2. Advanced Science Courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EEPS 1370</td>
<td>Environmental Geochemistry</td>
</tr>
<tr>
<td>or EEPS 1310</td>
<td>Global Water Cycle</td>
</tr>
<tr>
<td>or EEPS 1330</td>
<td>Global Environmental Remote Sensing</td>
</tr>
<tr>
<td>or EEPS 1520</td>
<td>Ocean Circulation and Climate</td>
</tr>
<tr>
<td>or EEPS 1580</td>
<td>Quantitative Elements of Physical Hydrology</td>
</tr>
<tr>
<td>or EEPS 1960B</td>
<td>Special Topics in Geological Sciences: Physical Hydrology</td>
</tr>
<tr>
<td>BIOL 0415</td>
<td>Microbes in the Environment</td>
</tr>
<tr>
<td>or BIOL 0420</td>
<td>Principles of Ecology</td>
</tr>
<tr>
<td>or BIOL 0480</td>
<td>Evolutionary Biology</td>
</tr>
</tbody>
</table>

3. Upper-Level Materials Engineering Curriculum (5 Credits):

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGN 1340</td>
<td>Water Supply and Treatment Systems - Technology and Sustainability</td>
</tr>
<tr>
<td>ENGN 1931P</td>
<td>Energy and the Environment</td>
</tr>
<tr>
<td>Three advanced Engineering courses from the list below:</td>
<td></td>
</tr>
</tbody>
</table>
| 1
| ENGN 1110   | Transport and Biotransport Processes              | 1 |
| ENGN 1120   | Reaction Kinetics and Reactor Design              | 1 |
| ENGN 1130   | Chemical Engineering Thermodynamics               | 1 |
| ENGN 1710   | Heat and Mass Transfer                            | 1 |
| ENGN 1860   | Advanced Fluid Mechanics                          | 1 |
| ENGN 1930U  | Renewable Energy Technologies                      | 1 |
| ENGN 1931A  | Photovoltaics Engineering                         | 1 |
| ENGN 1931F  | Introduction to Power Engineering                 | 1 |
| ENGN 1931R  | Chemistry of Environmental Pollution              | 1 |
| ENGN 2911P  | Fate and Transport of Environmental Contaminants  | 1 |
| or MATH 0190| Advanced Placement Calculus (Physics/Engineering) | 1 |
| or MATH 0170| Advanced Placement Calculus                       | 1 |
| MATH 0200   | Intermediate Calculus (Physics/Engineering)       | 1 |
| or MATH 0180| Intermediate Calculus                             | 1 |

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

The Mechanical Engineering program is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org. The education objectives of the Mechanical Engineering program are to prepare graduates: (1) to pursue scientific and technical careers beginning with either graduate study in mechanical engineering and related fields or mechanical engineering positions in industry; (2) to work on interdisciplinary teams that make use of the engineering problem solving method and a broad background in the liberal arts to address societal needs. 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>
</tr>
</thead>
<tbody>
<tr>
<td>ENGN 0030</td>
<td>Honors Introduction to Engineering</td>
<td>1</td>
</tr>
<tr>
<td>ENGN 0031</td>
<td>Honors Introduction to Engineering</td>
<td>1</td>
</tr>
<tr>
<td>ENGN 0035</td>
<td>Mechanical Properties of Solids</td>
<td>1</td>
</tr>
<tr>
<td>ENGN 1450</td>
<td>Properties and Processing of Electronic Materials</td>
<td>3</td>
</tr>
<tr>
<td>ENGN 1470</td>
<td>Structure &amp; Properties of Nonmetallic Materials</td>
<td></td>
</tr>
<tr>
<td>ENGN 1475</td>
<td>Soft Materials</td>
<td></td>
</tr>
<tr>
<td>ENGN 1480</td>
<td>Metallic Materials</td>
<td></td>
</tr>
<tr>
<td>ENGN 1490</td>
<td>Biomaterials</td>
<td></td>
</tr>
<tr>
<td>ENGN 1450</td>
<td>Projects in Engineering Design I</td>
<td>1</td>
</tr>
<tr>
<td>or ENGN 1001</td>
<td>Projects in Engineering Design II</td>
<td></td>
</tr>
<tr>
<td>or ENGN 1930L</td>
<td>Biomedical Engineering Design and Innovation</td>
<td></td>
</tr>
</tbody>
</table>

2. Upper-Level Mechanical Engineering Curriculum:

3. Capstone Design

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGN 1300</td>
<td>Structural Analysis</td>
<td></td>
</tr>
<tr>
<td>ENGN 1370</td>
<td>Advanced Engineering Mechanics</td>
<td></td>
</tr>
<tr>
<td>ENGN 1750</td>
<td>Advanced Mechanics of Solids</td>
<td></td>
</tr>
<tr>
<td>ENGN 1860</td>
<td>Advanced Fluid Mechanics</td>
<td></td>
</tr>
<tr>
<td>ENGN 1700</td>
<td>Aerospace Fluid Mechanics</td>
<td></td>
</tr>
<tr>
<td>ENGN 1710</td>
<td>Heat and Mass Transfer</td>
<td></td>
</tr>
</tbody>
</table>

Capstone: At least one course from the following must be taken in the final two semesters:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGN 1000</td>
<td>Projects in Engineering Design I</td>
<td></td>
</tr>
<tr>
<td>or ENGN 1001</td>
<td>Projects in Engineering Design II</td>
<td></td>
</tr>
<tr>
<td>ENGN 1930T</td>
<td>Aircraft Design</td>
<td></td>
</tr>
<tr>
<td>ENGN 1930M</td>
<td>Industrial Design</td>
<td></td>
</tr>
<tr>
<td>ENGN 1931D</td>
<td>Design of Mechanical Assemblies</td>
<td></td>
</tr>
<tr>
<td>ENGN 1380</td>
<td>Design of Civil Engineering Structures</td>
<td></td>
</tr>
<tr>
<td>ENGN 1720</td>
<td>Design of Thermal Engines</td>
<td></td>
</tr>
<tr>
<td>ENGN 1760</td>
<td>Design of Space Systems</td>
<td></td>
</tr>
</tbody>
</table>

Design Electives: Up to two courses from:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGN 1230</td>
<td>Instrumentation Design</td>
<td></td>
</tr>
<tr>
<td>ENGN 1740</td>
<td>Computer Aided Visualization and Design</td>
<td></td>
</tr>
</tbody>
</table>
Bioengineering Electives: Up to two courses from:
ENGN 1210 Biomechanics
ENGN 1220 Neuroengineering
ENGN 1490 Biomaterials

Robotic and Control Systems Electives: up to two courses from:
ENGN 1931I Design of Robotic Systems
ENGN 1931Y Control Systems Engineering

Engineering Analysis and Computation Electives: up to two courses from:
ENGN 1840 Numerical Methods in Engineering
ENGN 1950 Advanced Engineering Optimization

Energy and Environmental Engineering Electives: up to two courses from:
ENGN 1930U Renewable Energy Technologies
ENGN 1931P Energy and the Environment

Interdisciplinary Electives: up to one course from:
ENGN 1620 Analysis and Design of Electronic Circuits
or ENGN 1340 Water Supply and Treatment Systems - Technology and Sustainability
or ENGN 1440 Mechanical Properties of Materials
or ENGN 1470 Structure & Properties of Nonmetallic Materials
or ENGN 1570 Linear System Analysis
or ENGN 1931F Introduction to Power Engineering
or ENGN 1931X Instrumentation for Research: A Biomaterials/ Materials Project Laboratory
or ENGN 1931Z Interfaces, Information and Automation

3. Upper Level, Advanced Science Course: at least one course from:
PHYS 0790 Physics of Matter
or BIOL 0800 Principles of Physiology
or CHEM 0350 Organic Chemistry
or CHEM 1140 Physical Chemistry: Quantum Chemistry
or EEPS 1450 Structural Geology
or EEPS 1370 Environmental Geochemistry

4. General Education Requirement: At least four approved courses must be taken in humanities and social sciences

Total Credits 21

1 ENGN 1490 may be substituted if taken in Sophomore year.
2 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 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.
4 ENGN 1931Z may replace CSCI 0040 or meet an elective requirement, but not both.
5 Other non-introductory courses in physics, chemistry, neuroscience, geology, or biology may be substituted with the permission of the concentration advisor.

## 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 0170 or its equivalent. Students who begin in MATH 0200 can substitute an additional science, engineering or higher-level mathematics course for the MATH 0170 or 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 Sequence</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGN 0030 &amp; ENGN 0040</td>
<td>Introduction to Engineering and Dynamics and Vibrations (ENGN 0031 may be substituted for ENGN 0030)</td>
</tr>
<tr>
<td>PHYS 0050 &amp; PHYS 0060</td>
<td>Foundations of Mechanics and Foundations of Electromagnetism and Modern Physics</td>
</tr>
<tr>
<td>PHYS 0070 &amp; PHYS 0160</td>
<td>Analytical Mechanics and Introduction to Relativity, Waves and Quantum Physics</td>
</tr>
<tr>
<td>MATH 0190</td>
<td>Advanced Placement Calculus (Physics/Engineering)</td>
</tr>
<tr>
<td>or MATH 0170</td>
<td>Advanced Placement Calculus</td>
</tr>
<tr>
<td>or MATH 0200</td>
<td>Intermediate Calculus (Physics/Engineering)</td>
</tr>
<tr>
<td>or MATH 0180</td>
<td>Intermediate Calculus</td>
</tr>
<tr>
<td>or MATH 0350</td>
<td>Honors Calculus</td>
</tr>
</tbody>
</table>

Select three additional higher-level math, applied math, or mathematical physics (PHYS 0720) courses.

<table>
<thead>
<tr>
<th>Course Sequence</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCI 0040</td>
<td>Introduction to Scientific Computing and Problem Solving</td>
</tr>
<tr>
<td>or APMA 0160</td>
<td>Introduction to Scientific Computing</td>
</tr>
<tr>
<td>or CSCI 0111</td>
<td>Computing Foundations: Data</td>
</tr>
<tr>
<td>or CSCI 0150</td>
<td>Introduction to Object-Oriented Programming and Computer Science</td>
</tr>
<tr>
<td>or CSCI 0170</td>
<td>Computer Science: An Integrated Introduction</td>
</tr>
<tr>
<td>or CSCI 0190</td>
<td>Accelerated Introduction to Computer Science</td>
</tr>
<tr>
<td>ENGN 0510</td>
<td>Electricity and Magnetism</td>
</tr>
<tr>
<td>or PHYS 0470</td>
<td>Electricity and Magnetism</td>
</tr>
<tr>
<td>ENGN 1560</td>
<td>Optics</td>
</tr>
<tr>
<td>or PHYS 1510</td>
<td>Advanced Electromagnetic Theory</td>
</tr>
<tr>
<td>PHYS 0500</td>
<td>Advanced Classical Mechanics</td>
</tr>
<tr>
<td>or ENGN 1370</td>
<td>Advanced Engineering Mechanics</td>
</tr>
<tr>
<td>PHYS 1410</td>
<td>Quantum Mechanics A</td>
</tr>
<tr>
<td>or PHYS 0500</td>
<td>Quantum Mechanics B</td>
</tr>
<tr>
<td>PHYS 1530</td>
<td>Thermodynamics and Statistical Mechanics</td>
</tr>
<tr>
<td>or ENGN 0720</td>
<td>Thermodynamics</td>
</tr>
<tr>
<td>ENGN 1620</td>
<td>Analysis and Design of Electronic Circuits</td>
</tr>
<tr>
<td>or CHEM 0330</td>
<td>Equilibrium, Rate, and Structure</td>
</tr>
<tr>
<td>or ENGN 0310</td>
<td>Mechanics of Solids and Structures</td>
</tr>
<tr>
<td>or ENGN 0810</td>
<td>Fluid Mechanics</td>
</tr>
<tr>
<td>or PHYS 1600</td>
<td>Computational Physics</td>
</tr>
<tr>
<td>ENGN 0410</td>
<td>Materials Science</td>
</tr>
<tr>
<td>or ENGN 1690</td>
<td>Photonics Devices and Sensors</td>
</tr>
<tr>
<td>or PHYS 0560</td>
<td>Experiments in Modern Physics</td>
</tr>
<tr>
<td>PHYS 1560</td>
<td>Modern Physics Laboratory</td>
</tr>
<tr>
<td>or ENGN 1590</td>
<td>Introduction to Semiconductors and Semiconductor Electronics</td>
</tr>
</tbody>
</table>

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
or an approved 2000-level engineering or physics course.

A thesis under the supervision of a physics or engineering faculty member:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 0100D</td>
<td>Matters of Romance</td>
<td>1</td>
</tr>
<tr>
<td>ENGL 0100F</td>
<td>Devils, Demons, Do-Gooders</td>
<td>1</td>
</tr>
<tr>
<td>ENGL 0100G</td>
<td>The Literature of Identity</td>
<td>1</td>
</tr>
<tr>
<td>ENGL 0100J</td>
<td>Cultures and Countercultures: The</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>American Novel after World War II</td>
<td></td>
</tr>
<tr>
<td>ENGL 0100M</td>
<td>Writing War</td>
<td>1</td>
</tr>
<tr>
<td>ENGL 0100N</td>
<td>City Novels</td>
<td>1</td>
</tr>
<tr>
<td>ENGL 0100P</td>
<td>Love Stories</td>
<td>1</td>
</tr>
<tr>
<td>ENGL 0100Q</td>
<td>How Poems See</td>
<td>1</td>
</tr>
<tr>
<td>ENGL 0100R</td>
<td>American Histories, American Novels</td>
<td>1</td>
</tr>
<tr>
<td>ENGL 0100S</td>
<td>Being Romantic</td>
<td>1</td>
</tr>
<tr>
<td>ENGL 0100T</td>
<td>The Simple Art of Murder</td>
<td>1</td>
</tr>
<tr>
<td>ENGL 0100U</td>
<td>Serial Fictions</td>
<td>1</td>
</tr>
<tr>
<td>ENGL 0100V</td>
<td>Inventing Asian American Literature</td>
<td>1</td>
</tr>
<tr>
<td>ENGL 0100W</td>
<td>Literature Reformatted</td>
<td>1</td>
</tr>
<tr>
<td>ENGL 0100Y</td>
<td>Do the Right Thing</td>
<td>1</td>
</tr>
<tr>
<td>ENGL 0100Z</td>
<td>The Experiment: Poetry and Knowledge</td>
<td>1</td>
</tr>
<tr>
<td>ENGL 0101A</td>
<td>Independence and Modern Literature</td>
<td>1</td>
</tr>
<tr>
<td>ENGL 0101B</td>
<td>Earth Poetics: Literature and Climate Change</td>
<td>1</td>
</tr>
<tr>
<td>ENGL 0101C</td>
<td>America Dreaming</td>
<td>1</td>
</tr>
</tbody>
</table>

**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 centrally 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 come into the department offices at 70 Brown Street and speak with a concentration advisor. 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. To declare a concentration, students must fill out an online Concentration form via ASK and enter their plan of study indicating the requirements that each course fulfills.

**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>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 0100A</td>
<td>How To Read A Poem</td>
<td>1</td>
</tr>
<tr>
<td>ENGL 0100C</td>
<td>Altered States</td>
<td></td>
</tr>
</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. These courses explore the many strands of writing in English 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 both familiar and strange at times ambivalent inspirations for the literary imaginings 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.

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.

For up-to-date course information please visit Courses@Brown.edu (https://cabs.brown.edu).
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 0105X The Claims of Fiction
ENGL 0150Y Brontës and Brontëism
ENGL 0700E Postcolonial Literature
ENGL 0700G American Fiction and Mass Culture
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 0710Z American Literature and the Constitution
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 1710J Modern African Literature
ENGL 1710K Literature and the Problem of Poverty
ENGL 1710P The Literature and Culture of Black Power Reconsidered
ENGL 1711D Reading New York
ENGL 1711F India in English
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 Past, Radical Futures: Literature and the Left
ENGL 1760U American Modernism and Its Aftermaths
ENGL 1760Y Toni Morrison
ENGL 1761B Narratives of Blackness in Latinx and Latin America
ENGL 1761E Blackness and Being
ENGL 1761F Toni Morrison
ENGL 1761V The Korean War in Color
ENGL 1900D Literature and Politics
ENGL 1901J Fanon and Spillers
ENGL 1950H The Recent Novel and Its Cultural Rivals

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.

6. FIVE electives

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 ENGL0200 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 1 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.

Honor 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

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

December or mid-year graduates who wish to apply to honors have two options, but the first is highly encouraged:

Option 1:
In their 5th semester (Spring), students apply to the honors program along with the other juniors. Accepted students will be incorporated into the regular 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 1991 English Honors Seminar in the Fall, and ENGL 1992 Senior Honors Thesis in the Spring.

Option 2:
In the 7th semester (the Spring of their final year), students take an independent study with their thesis advisor, under whose direction they will begin to research and write their theses. This course must be taken S/NC. In the 8th semester (the Fall of their final year), as they complete their theses, students take ENGL 1992 for a grade. Mid-year graduates should consult with the Honors Director for information about deadlines.

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.

During the Fall and Spring of the senior year, honors candidates must complete two additional courses beyond the ten courses required by the regular concentration: ENGL 1991 and ENGL 1992. ENGL 1991 is the Senior Honors Seminar, in which students begin to research and write their theses, as well as to meet to discuss their work. This is a mandatory S/NC course. ENGL 1992, the Senior Honors Thesis is an independent research course that must be taken for a grade.

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 such a grade and wishes to continue in the program must complete a comparable course with a grade higher than C.

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. 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 their 6th semester, but are encouraged to apply during their 5th 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 5th 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 Honors Seminar in Nonfiction Writing (with the Honors Advisor) 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. Acceptable courses include prerequisites for track requirements, any ENVS course, and classes with significant environmental content.

The Honors Thesis

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):
- ENGF 0720 Introduction to Engineering
- ENGF 0490 Fundamentals of Environmental Engineering
- ENGF 0110 Principles of Economics
- HIST 0150A History of Capitalism
- ENVS 0490 Environmental Science in a Changing World
- BIOL 0210 Diversity of Life
- EEPS 0240 Earth: Evolution of a Habitable Planet

Methods - one course

- ENVS 1920 Methods for Interdisciplinary Environmental Research

Electives - three courses

These electives provide increased environmental expertise and further enhance a student's ability to customize a course of study. Acceptable courses include prerequisites for track requirements, any ENVS course, and classes with significant environmental content.

Climate (choose one):
- EEPS 0850 Weather and Climate
- EEPS 1430 Principles of Planetary Climate
- ENVS 1245 Air Pollution & Chemistry

Policy (choose one):
- ENVS 0710 Powering the Past: Environmental Histories of Energy Use and Social Change
- ENVS 1415 Power, Justice, and Climate Change
- ENVS 1615 Making Connections: The Environmental Policy Process
- ENVS 1925 Energy Policy and Politics
- POLS 1822I Geopolitics of Oil and Energy

Energy Technology and Infrastructure (choose one):
- ENGF 0490 Fundamentals of Environmental Engineering
- ENGF 0720 Thermodynamics
- ENGF 1930U Renewable Energy Technologies
- ENGF 1931P Energy and the Environment
- ENVS 1400 Sustainable Design in the Built Environment
- ENVS 1580 Environmental Stewardship and Resilience in Urban Systems

Track 2 - Conservation Science and Policy

Ecology:

4. Land, Water & Food Security
5. Sustainability in Development

Requirements for the A.B. Degree

Core Requirements

- ENGF 0110 Principles of Economics ¹
- ENGF 0490 Fundamentals of Environmental Engineering

Methods - one course

- ENVS 1920 Methods for Interdisciplinary Environmental Research

Electives - three courses

These electives provide increased environmental expertise and further enhance a student's ability to customize a course of study. Acceptable courses include prerequisites for track requirements, any ENVS course, and classes with significant environmental content.

Capstone - one or two courses

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.

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

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<tr>
<th>Course Code</th>
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<td>BIOL 1480</td>
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<tr>
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<td>APMA 0650</td>
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<td>Statistical Methods</td>
</tr>
<tr>
<td>ECON 1620</td>
<td>Introduction to Econometrics</td>
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### Track 3 – Environment and Inequality

#### Track Intro Course:
- ENV 0705 - Equity and the Environment: Movements, Scholarship, Solutions

#### 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
- ECON 1370 | Race and Inequality in the United States
- ETHN 1000 | Introduction to American/Ethnic Studies
- HIST 0150D | Refugees: A Twentieth-Century History
- HIST 203 | Modern Africa: From Empire to Nation-State
- SOC 0230 | Sex, Gender, and Society
- SOC 1270 | Race, Class, and Ethnicity in the Modern World

### Environment and Inequality: Select One
- ANTH 0110 | Anthropology and Global Social Problems: Environment, Development, and Governance
- ENV 0710 | Powering the Past: Environmental Histories of Energy Use and Social Change
- ENV 1910 | The Anthropocene: The Past and Present of Environmental Change
- 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 1700 | Current Topics in Environmental Health

### Tools: Select One
- ANTH 1940 | Ethnographic Research Methods
- APMA 1650 | Statistical Inference I
- ECON 1620 | Introduction to Econometrics
- EDUC 1100 | Introduction to Qualitative Research Methods
- ENVS 1105 | Introduction to Environmental GIS
- EEPS 1320 | Introduction to Geographic Information Systems for Environmental Applications
- EEPS 1330 | Global Environmental Remote Sensing
- 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
- SOC 2610 | Spatial Thinking in Social Science

### Track 4 – Land, Water & Food Security

#### Climate: Select One
- EEPS 0850 | Weather and Climate
- EEPS 1430 | Principles of Planetary Climate
- ENV 1245 | Air Pollution & Chemistry

#### Biology: Select One
- BIOL 0160 | Plants, Food, and People
- BIOL 0210 | Diversity of Life
- BIOL 0420 | Principles of Ecology
- BIOL 0430 | The Evolution of Plant Diversity
- BIOL 0440 | Inquiry in Plant Biology: Analysis of Plant Growth, Reproduction and Adaptive Responses

### Environmental History: Select One
- ANTH 0680 | Anthropology of Food
- ENV 0710 | Powering the Past: Environmental Histories of Energy Use and Social Change
- ENV 1557 | Birding Communities
- ENV 1910 | The Anthropocene: The Past and Present of Environmental Change
- ENV 1915 | Histories of Global Wetlands
- ENV 1916 | Animals and Plants in Chinese History
- HIST 0150H | Foods and Drugs in 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 1820B | Environmental History of East Asia
- HIST 1976C | Animal, Vegetable, Mineral: Environmental Histories of Non-Human Actors

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
### Track 5 - Sustainability in Development

**Environment and Development: Select Two**
- **ANTH 0110** Anthropology and Global Social Problems: Environment, Development, and Governance
- **ECON 1530** Health, Hunger and the Household in Developing Countries
- **ENVS 0150** Climate Futures and a Sociology of Just Transitions
- **ENVS 1415** Power, Justice, and Climate Change
- **ENVS 1555** Urban Agriculture: The Importance of Localized Food Systems
- **ENVS 1580** Environmental Stewardship and Resilience in Urban Systems
- **ENVS 1755** Globalization and the Environment

**Policy: Select Two**
- **ENVS 1350** Environmental Economics and Policy
- **ENVS 1574** Engaged Climate Policy in the U.S.: Rhode Island and Washington, DC
- **ENVS 1615** Making Connections: The Environmental Policy Process
- **ENVS 1925** Energy Policy and Politics

**Tools: Select One**
- **APMA 1650** Statistical Inference I
- **EEPS 1320** Introduction to Geographic Information Systems for Environmental Applications
- **EEPS 1330** Global Environmental Remote Sensing
- **SOC 1340** Principles and Methods of Geographic Information Systems

**Analysis Tools: Select One**
- **IAPA 1802C** Infrastructure!
- **ANTH 1940** Ethnographic Research Methods
- **APMA 1650** Statistical Inference I
- **ECON 1620** Introduction to Econometrics
- **ENVS 1105** Introduction to Environmental GIS
- **EEPS 1320** Introduction to Geographic Information Systems for Environmental Applications
- **EEPS 1330** Global Environmental Remote Sensing
- **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

**Total Credits: 14-15**

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.

2 The core requirement of ENVS 0490 can be waived for students with an AP exam score of 5 in Environmental Science.

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**Requirements for the Sc.B. Degree**

Requires ALL 14-15 course requirements as listed in the A.B. Program

**Additional Track specific requirements for the Sc.B.**

**Track 1 - Air, Climate, and Energy**

**Math:**
- **MATH 0090** Introductory Calculus, Part I

**Policy (choose one):**
- **ECON 1340** Economics of Global Warming
- **ENVS 1350** Environmental Economics and Policy
- **ENVS 1415** Power, Justice, and Climate Change
- **ENVS 1574** Engaged Climate Policy in the U.S.: Rhode Island and Washington, DC
- **ENVS 1615** Making Connections: The Environmental Policy Process
- **ENVS 1755** Globalization and the Environment
- **ENVS 1925** Energy Policy and Politics
- **IAPA 1802C** Infrastructure!
- **POLS 1822C** Geopolitics of Oil and Energy

**Tools (choose one):**
- **APMA 0340** Methods of Applied Mathematics I, II
- **APMA 0650** Essential Statistics
- **APMA 1650** Statistical Inference I
- **ECON 1620** Introduction to Econometrics
- **ENVS 1105** Introduction to Environmental GIS
- **EEPS 1320** Introduction to Geographic Information Systems for Environmental Applications
- **EEPS 1330** Global Environmental Remote Sensing

**Climate and Thermal Change (choose two):**
- **EEPS 0230** Geochemistry: Earth and Planetary Materials and Processes
- **EEPS 1120** Paleoceanography
- **EEPS 1370** Environmental Geochemistry
- **EEPS 1510** Introduction to Atmospheric Dynamics
- **ENGN 0720** Thermodynamics
- **ENGN 1720** Design of Thermal Engines
- **ENGN 1930M** Industrial Design
- **ENVS 1245** Air Pollution & Chemistry

**Track 2 - Conservation Science and Policy**

**Math:** Select One
- **MATH 0090** Introductory Calculus, Part I

**Evolution:** Select One
- **BIOL 0480** Evolutionary Biology
- **BIOL 0410** Invertebrate Zoology
- **BIOL 0430** The Evolution of Plant Diversity (BIOL 0460 - Insect Biology)
- **BIOL 0440** Inquiry in Plant Biology: Analysis of Plant Growth, Reproduction and Adaptive Responses
- **BIOL 1880** Comparative Biology of the Vertebrates

**Env. Econ:** Select One
- **ECON 1340** Economics of Global Warming
- **ENVS 1350** Environmental Economics and Policy
- **ECON 1355** Environmental Issues in Development Economics

Tools: Select One

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
ENVS 1105 Introduction to Environmental GIS
EEPS 1320 Introduction to Geographic Information Systems for Environmental Applications
EEPS 1330 Global Environmental Remote Sensing
SOC 1340 Principles and Methods of Geographic Information Systems
SOC 2610 Spatial Thinking in Social Science

**Track 3 – Environment and Inequality**

Tools: Select One

ANTH 1940 Ethnographic Research Methods
ECON 1620 Introduction to Econometrics
EDUC 1100 Introduction to Qualitative Research Methods

ENVS 1105 Introduction to Environmental GIS
EEPS 1320 Introduction to Geographic Information Systems for Environmental Applications
EEPS 1330 Global Environmental Remote Sensing
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
SOC 2610 Spatial Thinking in Social Science

Race, Class and Gender Inequality: Select One

ECON 1370 Race and Inequality in the United States
ETHN 1200I History and Resistance in Representations of Native Peoples
SOC 1270 Race, Class, and Ethnicity in the Modern World

SELECT A FOCUS AREA (pick three courses from only one focus area)

**FOCUS ONE - Environmental Inequality in Globalization and Development: Select Three**

ANTH 0110 Anthropology and Global Social Problems: Environment, Development, and Governance
ECON 1355 Environmental Issues in Development Economics
ECON 1510 Economic Development
ECON 1530 Health, Hunger and the Household in Developing Countries
ENVS 1415 Power, Justice, and Climate Change
ENVS 1916 Animals and Plants in Chinese History
HIST 0150D Refugees: A Twentieth-Century History
IAPA 1805C Caribbean and Pacific Small States: On the Margins of Development

**FOCUS TWO - Environmental Health and Inequality: Select Three**

AFRI 1060W Policy, Culture and Discourse that Shape Health and Access to Healthcare
ANTH 1310 International Health: Anthropological Perspectives
BIOL 1820 Environmental Health and Disease
HIST 1960Q Medicine and Public Health in Africa
PHP 0320 Introduction to Public Health

**FOCUS THREE - Environmental Inequalities in Food, Water, and Energy: Select Three**

AMST 1906P Food in American Society and Culture
ENVS 0710 Powering the Past: Environmental Histories of Energy Use and Social Change
ENVS 1415 Power, Justice, and Climate Change
ENVS 1555 Urban Agriculture: The Importance of Localized Food Systems
ENVS 1580 Environmental Stewardship and Resilience in Urban Systems
ENVS 1915 Histories of Global Wetlands
ENVS 1925 Energy Policy and Politics
ETHN 1750B Treaty Rights and Food Fights: Eating Local in Indian Country
IAPA 1805C Caribbean and Pacific Small States: On the Margins of Development

**Track 4 - Land, Water & Food Security**

Math: Select One

MATH 0090 Introductory Calculus, Part I

Chemistry: Select One

CHEM 0330 Equilibrium, Rate, and Structure

Earth/Life Systems: Select Three

BIOL 1470 Conservation Biology
BIOL 1480 Terrestrial Biogeochemistry and the Functioning of Ecosystems
EEPS 0240 Earth: Evolution of a Habitable Planet
EEPS 1120 Paleoceanography
EEPS 1130 Ocean Biogeochemical Cycles
EEPS 1310 Global Water Cycle
EEPS 1370 Environmental Geochemistry
EEPS 1510 Introduction to Atmospheric Dynamics
ENGN 1340 Water Supply and Treatment Systems - Technology and Sustainability

**Track 5 - Sustainability in Development**

Sociology and Politics: Select One

ENVS 0150 Climate Futures and a Sociology of Just Transitions
ENVS 1755 Globalization and the Environment
POLS 0400 Introduction to International Politics

Critical Perspectives on Development: Select One

ANTH 0110 Anthropology and Global Social Problems: Environment, Development, and Governance
ECON 1370 Race and Inequality in the United States
IAPA 0010 Sophomore Seminar in Development Studies
IAPA 1802C Infrastructure!
POLS 1200 Reimagining Capitalism
SOC 1620 Globalization and Social Conflict

Economic Perspectives: Select Two

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Faculty, both core and affiliated, create and participate in groundbreaking Ethnic Studies scholarship. Areas of faculty research include borderlands history, Latina/o literary studies and visual culture, indigenous movements, migration and African American cultural studies as well as the intersecting fields of gender and sexuality, queer theory and critical race theory. Students can focus their study on specific populations (e.g., Latina/o, Asian Americans) and choose a thematic interest including such current examples as: "social issues affecting radicalized groups" (students have looked at health disparities or educational inequality); "the study of cultural production or cultural representations;" "the theory of a particular racial or ethnic group," and "the study of comparative processes of radicalization."

**Requirements**

- **ETHN 1000** Introduction to American/Ethnic Studies 1
- Any two courses from the ETHN 1200 "Topics in Ethnic Studies" or ETHN 1750 "Advanced Topics in Ethnic Studies" sequence, or similar electives in AMST, as approved by the advisor
- **ETHN 1200B** Contemporary Indigenous Education in North America
- **ETHN 1200D** Latinx Literature
- **ETHN 1750A** Immigrant Social Movements: Bridging Theory and Practice
- **ETHN 1750B** Treaty Rights and Food Fights: Eating Local in Indian Country
- **ETHN 1750D** Transpacific Asian American Studies
- **ETHN 1750E** Transpacific Popular Culture

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.

- **ETHN 1650** Methods and Approaches in Ethnic Studies 1
- **American Studies seminar in the AMST 1700 series** 1
- **AMST 1700D** Race and Remembering
- **AMST 1700F** American Publics
- **AMST 1700i** Community Engagement with Health and Environment
- **AMST 1700K** Race in the Americas: A Hemispheric Perspective
- **ETHN 1900** Ethnic Studies Senior Seminar 1

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:

- A 3.5 GPA in concentration courses
- A 3.0 overall GPA
- The standard concentration ([https://www.brown.edu/academics/american-studies/ethn-studies-requirements-prior-7117](https://www.brown.edu/academics/american-studies/ethn-studies-requirements-prior-7117))
- AMST/ETHN 1800 the Honors Seminar in the sixth semester
- An Honors Thesis Proposal and an application for the Ethnic Studies Honors Program (see below for link to application)

Honors:

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/ethn-studies-requirements-prior-7117](https://www.brown.edu/academics/american-studies/ethn-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)

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

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.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
The concentration in French and Francophone Studies is committed to the study of the language, literature, and cultural and critical traditions of the French-speaking world. Concentrators engage actively through their coursework with a wide range of texts and critical perspectives, and multiple literary genres and media (the novel; theater; poetry; cinema; critical theory; special topics in contemporary politics and culture). They have opportunities to study different periods of French literature and intellectual history (from the Renaissance to the present) as well as Francophone cultures beyond France (West Africa, the Maghreb and the Caribbean). Courses cover a wide diversity of topics, while placing a shared emphasis on language-specific study, critical writing skills, and the vital place of literature and art for intellectual inquiry.

The concentration program is designed to encourage and support language-specific study. Literary texts and cultural documents are read principally in the original. Likewise, in most courses, French is the language of class discussions, presentations and research/critical papers.

Concentrators in French and Francophone Studies are strongly encouraged to spend one or two semesters (usually in their junior year) in France or in a Francophone country to derive the richest benefits of linguistic and cultural immersion. Information on Brown in France and approved alternative programs in French-speaking countries is available from the Office of International Programs (http://www.brown.edu/Administration/OIP) office and the OIP website. Other summer programs can be found on the French Embassy website.

Students who have an outstanding record in their concentration courses, have completed at least six concentration courses by the first semester of their senior year, and are highly recommended by two professors, are eligible to apply for admission to the Honors program (http://www.brown.edu/academics/french-studies/undergraduate/honors-program).

Concentration Requirements
A minimum of 10 courses is required for the concentration in French and Francophone Studies. Concentrators must observe following guidelines when planning their concentration. It is recommended that course choices for each semester be discussed with the department’s concentration advisor.

Note: A maximum of four courses taken during a single semester (and a maximum of five courses from an entire year) in France or a Francophone country may count toward the concentration. Our concentrators are strongly encouraged to spend significant time in France or in a Francophone country to derive the richest benefits of linguistic and cultural immersion. Through the Brown-in-France program administered by OIP and departmental faculty, students can enroll directly in French institutions.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
French-American (Dis)Connections: Avant-Gardes

Fictions de l'individu

Contes et nouvelles du Moyen Age

L'identité française

Advanced Written French: Atelier d'écriture

Gender Theory and Politics in France

Molière et son monde

Clichés. L'écriture à l'épreuve de la modernité

The French Renaissance: The Birth of Novel and Short Story

Political, economic, or scientific contexts. Each concentrator focuses on a well-defined topic or question and works closely with a concentration advisor to develop a program that investigates this focus area rigorously and supplements it with foundational courses in the relevant disciplines. Typical areas of focus include the acculturation of gender, sexuality and race in American politics or activism, the construction of sexual and gendered identities in educational institutions or in various forms of visual media, a contrast between different cultural understandings of sexual identity, a particular national literature and history. Such topics may also organize their concentrations to emphasize questions specifically related to gender or to sexuality. Introductory and methodology courses in the disciplines appropriate to students’ focus will help them understand the principles grounding such practices as historical research, literary interpretation, and sociological analysis.

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, including current cross-listed courses and sample concentration plans, please consult the GNSS concentration webpage (http://www.brown.edu/research/pembroke-center/gender-and-sexuality-studies/undergraduate-concentration-gender-sexuality-studies) at h (http://www.brown.edu/research/pembroke-center/gender-and-sexuality-studies/undergraduate-concentration-gender-sexuality-studies).


### Geological Sciences

Geological science involves the study of the Earth (and other planetary bodies), including their compositions and histories and the physical chemical and biological processes that shape them. The geosciences are highly interdisciplinary, thus students must take some supporting math and science courses. 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. Students may choose an AB (total of 13 courses) or an ScB (19 total courses, including one semester of research). There are many opportunities for students to do research work (typically in paid positions) during the academic year or in the summer, in areas such as deformation and properties of geological materials, deciphering the geologic history of some local rocks, or analysis of planetary images.

### 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

<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 (or advanced placement)</td>
<td>1</td>
</tr>
<tr>
<td>MATH 0090</td>
<td>Introductory Calculus, Part I</td>
<td>3</td>
</tr>
<tr>
<td>MATH 0100</td>
<td>Introductory Calculus, Part II (or more advanced)</td>
<td></td>
</tr>
<tr>
<td>PHYS 0050</td>
<td>Foundations of Mechanics</td>
<td></td>
</tr>
<tr>
<td>PHYS 0060</td>
<td>Foundations of Electromagnetism and Modern Physics (or more advanced)</td>
<td></td>
</tr>
<tr>
<td>ENGN 0030</td>
<td>Introduction to Engineering</td>
<td></td>
</tr>
<tr>
<td>ENGN 0040</td>
<td>Dynamics and Vibrations (or more advanced)</td>
<td></td>
</tr>
<tr>
<td>BIOL 0200</td>
<td>The Foundation of Living Systems (or more advanced)</td>
<td></td>
</tr>
</tbody>
</table>

#### 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>Earth 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>
<tr>
<td>Select two of the following:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EEPS 1410</td>
<td>Mineralogy</td>
<td>2</td>
</tr>
<tr>
<td>EEPS 1420</td>
<td>Petrology</td>
<td>2</td>
</tr>
<tr>
<td>EEPS 1450</td>
<td>Structural Geology</td>
<td>2</td>
</tr>
<tr>
<td>Select two of the following:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EEPS 0310</td>
<td>Fossil Record</td>
<td></td>
</tr>
<tr>
<td>EEPS 1110</td>
<td>Estuarine Oceanography</td>
<td></td>
</tr>
<tr>
<td>EEPS 1240</td>
<td>Stratigraphy and Sedimentation</td>
<td></td>
</tr>
<tr>
<td>EEPS 1330</td>
<td>Global Environmental Remote Sensing</td>
<td></td>
</tr>
<tr>
<td>EEPS 1370</td>
<td>Environmental Geochemistry</td>
<td></td>
</tr>
<tr>
<td>A field course</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select two additional courses from upper level geological sciences, mathematics, or supporting sciences with approval from the departmental concentration advisor.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total Credits: 13**

1 Advanced placement may be substituted for the first semester of physics.

### Geology-Biology

Geology-Biology involves study of the interactions of the Earth and its hydrosphere and atmosphere with the great diversity of life forms, and how they have evolved and influenced one another over the entire history of the Earth. Many courses emphasize climate and biogeochemistry; this concentration is a good one for students interested in quantitative approaches to environmental science. Students take a basic suite of geoscience courses and at least 4 bio courses of their choosing, plus some supporting math and science courses; the AB degree requires a total of 14 courses and the ScB degree requires a total of 19, including one semester of research. 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 (typically in paid positions) during the academic year or in the summer, in areas such as determining the history of climate change during the recent ice age, investigating the causes of major extinctions, and using paleoenvironmental records to determine the vulnerability of different regions of the globe to droughts and other processes that strongly affect society.

### 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

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For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
students for careers in environmental science, geology, ecology, oceanography, and global change.

### Basic supporting science courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 0200</td>
<td>The Foundation of Living Systems (or more advanced)</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 0330</td>
<td>Equilibrium, Rate, and Structure (or advanced placement)</td>
<td>1</td>
</tr>
</tbody>
</table>

Select two courses in mathematics and/or physics at the level of:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 0090</td>
<td>Introductory Calculus, Part I (or more advanced)</td>
<td>2</td>
</tr>
<tr>
<td>PHYS 0050</td>
<td>Foundations of Mechanics (or more advanced)</td>
<td></td>
</tr>
<tr>
<td>ENGN 0030</td>
<td>Introduction to Engineering (or more advanced, or courses in data analysis and statistics)</td>
<td></td>
</tr>
</tbody>
</table>

### 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>Earth 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>
<tr>
<td>EEPS 1240</td>
<td>Stratigraphy and Sedimentation</td>
<td>1</td>
</tr>
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</table>

Select three Biology courses from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 0390</td>
<td>Vertebrate Evolution and Diversity</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 0410</td>
<td>Invertebrate Zoology</td>
<td></td>
</tr>
<tr>
<td>BIOL 0415</td>
<td>Microbes in the Environment</td>
<td></td>
</tr>
<tr>
<td>BIOL 0420</td>
<td>Principles of Ecology</td>
<td></td>
</tr>
<tr>
<td>BIOL 0430</td>
<td>The Evolution of Plant Diversity</td>
<td></td>
</tr>
<tr>
<td>BIOL 0440</td>
<td>Inquiry in Plant Biology: Analysis of Plant Growth, Reproduction and Adaptive Responses</td>
<td></td>
</tr>
<tr>
<td>BIOL 0480</td>
<td>Evolutionary Biology</td>
<td></td>
</tr>
<tr>
<td>BIOL 1470</td>
<td>Conservation Biology</td>
<td></td>
</tr>
<tr>
<td>BIOL 1480</td>
<td>Terrestrial Biogeochemistry and the Functioning of Ecosystems</td>
<td></td>
</tr>
<tr>
<td>BIOL 1500</td>
<td>Plant Physiological Ecology</td>
<td></td>
</tr>
<tr>
<td>BIOL 1880</td>
<td>Comparative Biology of the Vertebrates</td>
<td></td>
</tr>
</tbody>
</table>

Three geological sciences courses from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</tr>
</thead>
<tbody>
<tr>
<td>EEPS 0580</td>
<td>Foundations of Physical Hydrology</td>
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</tr>
<tr>
<td>EEPS 1110</td>
<td>Estuarine Oceanography</td>
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</tr>
<tr>
<td>EEPS 1120</td>
<td>Paleoenography</td>
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</tr>
<tr>
<td>EEPS 1130</td>
<td>Ocean Biogeochemical Cycles</td>
<td></td>
</tr>
<tr>
<td>EEPS 1150</td>
<td>Limnology: The Study of Lakes</td>
<td></td>
</tr>
<tr>
<td>EEPS 1330</td>
<td>Global Environmental Remote Sensing</td>
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</tr>
<tr>
<td>EEPS 1370</td>
<td>Environmental Geochemistry</td>
<td></td>
</tr>
<tr>
<td>EEPS 1380</td>
<td>Environmental Stable Isotopes</td>
<td></td>
</tr>
<tr>
<td>EEPS 1510</td>
<td>Introduction to Atmospheric Dynamics</td>
<td></td>
</tr>
</tbody>
</table>

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>
<thead>
<tr>
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</thead>
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<tr>
<td>BIOL 0200</td>
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<td>1</td>
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<td>ENGN 0030</td>
<td>Introduction to Engineering</td>
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</table>

Select two courses in mathematics at the level of:

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<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 0090</td>
<td>Introductory Calculus, Part I (or more advanced)</td>
<td>2</td>
</tr>
<tr>
<td>MATH 0100</td>
<td>Introductory Calculus, Part II (or more advanced, or advanced courses in data analysis)</td>
<td></td>
</tr>
</tbody>
</table>

### Fourteen (14) concentration courses

<table>
<thead>
<tr>
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</thead>
<tbody>
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</tr>
<tr>
<td>EEPS 1240</td>
<td>Stratigraphy and Sedimentation</td>
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</table>

Three biology courses from the following:

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<tr>
<td>BIOL 1480</td>
<td>Terrestrial Biogeochemistry and the Functioning of Ecosystems</td>
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<tr>
<td>BIOL 1500</td>
<td>Plant Physiological Ecology</td>
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<tr>
<td>BIOL 1880</td>
<td>Comparative Biology of the Vertebrates</td>
<td></td>
</tr>
</tbody>
</table>

Three geological sciences courses from the following:

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<tbody>
<tr>
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<td>Foundations of Physical Hydrology</td>
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<td>Estuarine Oceanography</td>
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<td>EEPS 1370</td>
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<tr>
<td>EEPS 1510</td>
<td>Introduction to Atmospheric Dynamics</td>
<td></td>
</tr>
</tbody>
</table>

Three additional courses from upper level geological sciences, mathematics, or supporting sciences with approval from the concentration advisor

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EEPS 1970</td>
<td>Individual Study of Geologic Problems</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credits 19

### 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, oceans 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, 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.

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

**Basic supporting science courses**
Select two courses in mathematics at the level of:
- MATH 0090 Introductory Calculus, Part I (or more advanced) 2
- MATH 0100 Introductory Calculus, Part II (or more advanced) 2
- CHEM 0330 Equilibrium, Rate, and Structure 1
- PHYS 0050 Foundations of Mechanics (or a more advanced course, or advanced placement.) 1

or ENGN 0030 Introduction to Engineering

**Concentration courses**
- EEPS 0220 Earth Processes 1
- EEPS 0230 Geochemistry: Earth and Planetary Materials and Processes 1
- EEPS 0240 Earth: Evolution of a Habitable Planet 1
- Three additional chemistry courses 3

Select one of the following Series:
- EEPS 1410 Mineralogy 2
  or EEPS 1420 Petrology
- EEPS 1130 Ocean Biogeochemical Cycles or EEPS 1370 Environmental Geochemistry 2

Two additional courses from upper level geological sciences, math, or supporting sciences with approval from the department concentration advisor.

**Total Credits**
14

### Standard program for the Sc.B. degree

This program is recommended for students interested in graduate study and careers in geochronology and related fields.

**Basic Supporting Science Courses:**
Select two courses in mathematics at the level of:
- MATH 0090 Introductory Calculus, Part I (or more advanced) 2
- MATH 0100 Introductory Calculus, Part II (or more advanced) 2
- CHEM 0330 Equilibrium, Rate, and Structure 1

Select one of the following series:
- PHYS 0050 Foundations of Mechanics and Foundations of Electromagnetism and Modern Physics 2
- ENGN 0030 Introduction to Engineering and Dynamics and Vibrations
  or a more advanced course

**Concentration Courses:**
Either the geochemistry/inorganic option or the geochemistry/organic option: 10

#### Geochemistry/Inorganic Option:
- EEPS 0220 Earth Processes
- EEPS 0230 Geochemistry: Earth and Planetary Materials and Processes
- EEPS 0240 Earth: Evolution of a Habitable Planet
- EEPS 1130 Ocean Biogeochemical Cycles or EEPS 1370 Environmental Geochemistry
- EEPS 1410 Mineralogy
- EEPS 1420 Petrology

Plus one from:
- EEPS 1240 Stratigraphy and Sedimentation
- EEPS 1330 Global Environmental Remote Sensing
- EEPS 1380 Environmental Stable Isotopes

Three Chemistry courses:
- CHEM 0350 Organic Chemistry
- CHEM 0360 Organic Chemistry

Plus one additional chemistry course
Three additional courses from upper level geological sciences, mathematics, or supporting sciences with approval of the departmental concentration advisor.

**Total Credits**
19

1. Advanced placement may be substituted for the first semester of physics.

### 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. Geosciences 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.

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

EEPS 0220 Earth Processes 1
EEPS 0250 Computational Approaches to Modelling and Quantitative Analysis in Natural Sciences: An Introduction 1
or EEPS 0350 Mathematical Methods of Fluid

Four theme courses (choose either the Solid Earth Geophysics Theme or the Climate Science Theme):

Solid Earth Geophysics Theme
EEPS 0230 Geochemistry: Earth and Planetary Materials and Processes
EEPS 1610 Solid Earth Geophysics

And select two of the following:
EEPS 1410 Mineralogy
EEPS 1420 Petrology
EEPS 1450 Structural Geology
EEPS 1620 Continuum Physics of the Solid Earth

Climate Science Theme
EEPS 0240 Earth: Evolution of a Habitable Planet

And select two from the following:
EEPS 1130 Ocean Biogeochemical Cycles
EEPS 1310 Global Water Cycle
EEPS 1430 Principles of Planetary Climate
EEPS 1510 Introduction to Atmospheric Dynamics
EEPS 1520 Ocean Circulation and Climate

Choose one of the following:
PHYS 0050 Foundations of Mechanics
PHYS 0070 Analytical Mechanics
ENGN 0040 Dynamics and Vibrations

Choose one of the following:
PHYS 0060 Foundations of Electromagnetism and Modern Physics
ENGN 0310 Mechanics of Solids and Structures
ENGN 0810 Fluid Mechanics

Choose one of the following:
PHYS 0470 Electricity and Magnetism
PHYS 0500 Advanced Classical Mechanics
PHYS 1600 Computational Physics
ENGN 0510 Electricity and Magnetism
ENGN 0810 Fluid Mechanics
ENGN 1370 Advanced Engineering Mechanics
EEPS 1820 Geophysical Fluid Dynamics: Rotating, Stratified Turbulence Edition

Three courses in Mathematics, including:
APMA 0330 Methods of Applied Mathematics I, II
or APMA 0340 Methods of Applied Mathematics I, II
CHEM 0330 Equilibrium, Rate, and Structure (or advanced placement)

One additional course from upper level geological sciences, mathematics, or supporting sciences with approval from the departmental concentration advisor.

Total Credits 14

1 One course cannot be used to satisfy two requirements.
2 ENGN 0810 or EEPS 1820 are recommended for those completing the Climate Science theme.
3 In addition to courses listed elsewhere, in the Geology-Physics/Math concentrations, these courses are of particular relevance: EEPS 0810, EEPS 1320, EEPS 1710, EEPS 1960A.

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.

EEPS 0220 Earth Processes 1
EEPS 1430 Principles of Planetary Climate 1
EEPS 1610 Solid Earth Geophysics 1

Five theme courses (choose either the Solid Earth Geophysics theme or the Climate Science Theme):

Solid Earth Geophysics Theme
EEPS 0230 Geochemistry: Earth and Planetary Materials and Processes
EEPS 1450 Structural Geology
EEPS 1620 Continuum Physics of the Solid Earth

And choose two from the following:
EEPS 1410 Mineralogy
EEPS 1420 Petrology
EEPS 1560 Global Tectonics
EEPS 1650 Earthquake Seismology
Or a field course

Climate Science Theme
EEPS 0240 Earth: Evolution of a Habitable Planet

Choose one:
EEPS 1510 Introduction to Atmospheric Dynamics
EEPS 1520 Ocean Circulation and Climate

And choose three from the following: 1
EEPS 1130 Ocean Biogeochemical Cycles
EEPS 1310 Global Water Cycle
EEPS 1330 Global Environmental Remote Sensing
EEPS 1510 Introduction to Atmospheric Dynamics
EEPS 1520 Ocean Circulation and Climate
Or a field or sea course

PHYS 0050 Foundations of Mechanics
or PHYS 0070 Analytical Mechanics
or ENGN 0040 Dynamics and Vibrations

PHYS 0060 Foundations of Electromagnetism and Modern Physics
or ENGN 0310 Mechanics of Solids and Structures
or ENGN 0810 Fluid Mechanics

Select two of the following: 1,2
PHYS 0470 Electricity and Magnetism
PHYS 0500 Advanced Classical Mechanics
PHYS 1600 Computational Physics
ENGN 0510 Electricity and Magnetism
ENGN 0810 Fluid Mechanics
ENGN 1370 Advanced Engineering Mechanics
EEPS 1820 Geophysical Fluid Dynamics: Rotating, Stratified Turbulence Edition

Three courses in mathematics including:
APMA 0330 Methods of Applied Mathematics I, II
or APMA 0340 Methods of Applied Mathematics I, II
CHEM 0330 Equilibrium, Rate, and Structure (or advanced placement)

One additional course from upper level geological sciences, mathematics, or supporting sciences with approval from the departmental concentration advisor.

Total Credits 14

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

German Studies exposes students to the language, literature, and culture of the German speaking areas of Central Europe. Concentrators combine intensive study of the German language with interdisciplinary studies by complementing courses from the German Studies core program with courses from other departments that deal with topics from the German cultural tradition. The quest for national identity that dominated German history in the nineteenth and twentieth centuries has been augmented by contemporary Germany’s efforts to come to terms with its past and create new ways of dealing with diversity. Our curriculum therefore looks back at the German literary, cultural, and historical tradition, examining figures from Goethe or Christa Wolf to Marx, Freud, Nietzsche, and Heidegger, alongside the “texts” of contemporary German media, including television, film, and music. Most concentrators study abroad for one or two semesters.

*In spring 2017, Professor Jane Sokolosky will serve as concentration advisor. Professor Kristina Mendicino will return as concentration advisor in fall 2017.

Standard program for the A.B. degree

Many students elect to complete a double concentration, combining German Studies with one of the above areas, or with fields such as International Relations or Economics, Comparative Literature or History of Art and Architecture.

Knowledge of the German language is not required for declaring a concentration in German Studies. However, since language fluency is the basis for sophisticated understanding of German culture, students must meet a language requirement by the time they graduate.

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 Guilt 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 München
GRMN 1440F Lyric Poetry From the Middle Ages to the Present
GRMN 1440H Projections of America
GRMN 1440L German Lyric Poetry: From Goethe to Heine
GRMN 1440N Kunstmaerchen: the Literary Fairytale in the Nineteenth Century
GRMN 1440O Modern German Drama
GRMN 1440P Heroes, Failures and Other Peculiar Characters-The German Novel from Goethe to Kafka
GRMN 1440S Grimm's Fairy Tales
GRMN 1440W The European Novel from Goethe to Proust (COLT 1420)
GRMN 1440X "Stranger Things: The German Novella"
GRMN 1440Y Return to Sender: Love, Letters, and Literature
GRMN 1441A Theater and Revolution (COLT 1411B)
GRMN 1441C Introduction to German Romantic Poetry
GRMN 1450A German-Jewish Literature
GRMN 1450B Die Berliner Republik und die Vergangenheit
GRMN 1450C National Socialism and the Shoah in Recent German Prose
GRMN 1450F 20 Years After: The End of GDR and German Reunification
GRMN 1450G Love and Death
GRMN 1450H Images of America in German Literature
GRMN 1640C German National Cinema from 1917 to 1989, and Cold War Germans in Film
GRMN 1660B Berlin: A City Strives to Reinvent Itself

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
GRMN 1660C  German Culture in the Nazi Era
GRMN 1660F  After Hitler: German Culture and Politics, 1945 to Present
GRMN 1660G  Kafka
GRMN 1660H  Literary Discourse of Minority Cultures in Germany
GRMN 1660I  Literature and Other Media
GRMN 1660K  Thinking After Philosophy
GRMN 1660L  German Jews and Capitalist Markets in the Long Nineteenth Century
GRMN 1660P  Having Beethoven Over in 1970
GRMN 1660Q  Film and the Third Reich
GRMN 1660R  Freud
GRMN 1660S  Mord und Medien. Krimis im intermedialen Vergleich
GRMN 1660T  Germans/Jews, Deutsche (und) Juden
GRMN 1660U  What was Socialism? From Marx to "Goodbye Lenin"
GRMN 1660V  Nietzsche
GRMN 1660W  Early German Film and Film Theory
GRMN 1661A  Race and Classical German Thought
GRMN 1661C  Germany, Alcohol, and the Global Nineteenth Century
GRMN 1661F  Music, Religion, Politics (MUSC 1675)
GRMN 1661G  The Case of Wagner (MUSC 1640G)
GRMN 1661L  The Promise of Being: Heidegger for Beginners (COLT 1610V)
GRMN 1700A  Introduction to Yiddish Culture and Language (JUDS 1713)
GRMN 1770  Introduction to Yiddish Culture and Language (JUDS 1713)
GRMN 1770A  Introduction to Yiddish Culture (JUDS 1713)
GRMN 1800  Posthumanism and the Ends of Man (COLT 1814Y)
GRMN 1800A  Berlin: Dissonance, Division, Revision (COLT 1813J)
GRMN 1900D  Fleeing the Nazis: German Culture in Exile, 1933-1945
GRMN 1900E  Made in Germany - A Cultural History of Science, Technology, and Engineering
GRMN 2320B  The Works of Heinrich Kleist
GRMN 2320C  Enlightened Laughter
GRMN 2320D  Kafka in English
GRMN 2320E  Political Romanticism
GRMN 2330A  Vision and Narration in the 19th Century
GRMN 2340A  German Literature 1968-1989
GRMN 2340B  Poetik der AutorInnen
GRMN 2340C  German Modernism
GRMN 2460C  Literature of the German Democratic Republic
GRMN 2460D  Thomas Mann: Die Romane
GRMN 2500A  Rethinking the Bildungsroman (COLT 2520G)
GRMN 2660A  On the Sublime
GRMN 2660C  Socialism and the Intellectuals
GRMN 2660G  Reading (in) German Literature
GRMN 2660H  Historicism, Photography, Film
GRMN 2660I  Torture in European Literature and Aesthetic Theory
GRMN 2660O  From Hegel to Nietzsche: Literature as/and Philosophy
GRMN 2660P  The Essay: Theory and Praxis
GRMN 2660Q  Freud and Lacan (ENGL 2900T)
GRMN 2661A  "Other Worlds"
GRMN 2661F  Textual Border Crossings: Translational Literature
GRMN 2661J  Art, Philosophy, and Truth: A Close Reading of Benjamin's Essay on Goethe's Elective Affinities
GRMN 2661Q  Goethe's Faust
GRMN 2662A  Theories of Poetry and the Poetic

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. 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** Introductory Calculus, Part I (or equivalent placement) 1
  - OR
  - **MATH 0050 & MATH 0060** Analytic Geometry and Calculus and Analytic Geometry and Calculus
  - OR
  - **MATH 0100** Introductory Calculus, Part II or **MATH 0170** Advanced Placement Calculus
- **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).

**BIOLOGY:**
- Five (5) courses, including: 5

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Genetics, which can be fulfilled in the following ways:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>BIOL 0470</td>
<td>Genetics</td>
</tr>
<tr>
<td><strong>-OR-</strong></td>
<td></td>
</tr>
<tr>
<td>BIOL 0480</td>
<td>Evolutionary Biology</td>
</tr>
<tr>
<td>&amp; BIOL 0500</td>
<td>and Cell and Molecular Biology</td>
</tr>
<tr>
<td><strong>-OR-</strong></td>
<td></td>
</tr>
<tr>
<td>BIOL 0480</td>
<td>Evolutionary Biology</td>
</tr>
<tr>
<td>&amp; BIOL 0510</td>
<td>and Introductory Microbiology</td>
</tr>
<tr>
<td><strong>-OR-</strong></td>
<td></td>
</tr>
<tr>
<td>BIOL 0480</td>
<td>Evolutionary Biology</td>
</tr>
<tr>
<td>&amp; BIOL 0280</td>
<td>and Biochemistry</td>
</tr>
</tbody>
</table>

Select one course in structure/function/development such as:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>BIOL 0400</td>
<td>Biological Design: Structural Architecture of Organisms</td>
</tr>
<tr>
<td>BIOL 0800</td>
<td>Principles of Physiology</td>
</tr>
<tr>
<td>BIOL 1310</td>
<td>Developmental Biology</td>
</tr>
<tr>
<td>BIOL 1800</td>
<td>Animal Locomotion</td>
</tr>
<tr>
<td>BIOL 1880</td>
<td>Comparative Biology of the Vertebrates</td>
</tr>
<tr>
<td>NEUR 0010</td>
<td>The Brain: An Introduction to Neuroscience</td>
</tr>
</tbody>
</table>

One course in organismal/population biology such as:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 0380</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>
</tr>
<tr>
<td>BIOL 0480</td>
<td>Evolutionary Biology</td>
</tr>
<tr>
<td>BIOL 1470</td>
<td>Conservation Biology</td>
</tr>
<tr>
<td>BIOL 1880</td>
<td>Comparative Biology of the Vertebrates</td>
</tr>
<tr>
<td>ENV 0490</td>
<td>Environmental Science in a Changing World</td>
</tr>
</tbody>
</table>

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. See Notes below:

**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

**THEME:**
- Approved courses must be above the introductory level and at least one must be 1000-level or above.
- 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) Health Behavior, 2) Environmental Health, 3) Global/International Health, 4) Social Context of Health and Disease.

**CAPSTONE:** See https://www.brown.edu/academics/biology/undergraduate-education/undergraduate/health-and-human-biology for more information on the Capstone Activity.

**HONORS:** See more information about Honors at https://www.brown.edu/academics/biology/undergraduate-education/honors-biological-sciences.

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**Hispanic Literatures and Culture**

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 Culture 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 context; 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.

The concentration requires a minimum of ten courses. 700-level courses provide fundamental tools for critical analysis and opportunities for developing advanced skills in the Spanish language. In courses at the 1000 level, students explore particular authors, genres, periods, or special topics and continue to hone their skills in literary and cultural analysis.

**Prerequisite**

Between one and three 700-level courses in Hispanic Studies, including at least one of:

- HISP 0730 Encounters: Latin America in Its Literature and Culture
- HISP 0740 Intensive Survey of Spanish Literature
- HISP 0760 Transatlantic Crossings: Readings in Hispanic Literatures

**Remaining Courses**

Select at least three 1000-level courses in Hispanic Studies at Brown. These provide more specialized preparation in major areas of Hispanic Studies, including works and topics from the centuries and pertaining to both Spain and Latin America. Concentrators must take at least six courses (at either the 0700 or 1000 level, with a maximum of three 0700 level courses) in Hispanic Studies at Brown, including one with the WRT designation.

Concentrators may apply up to four related courses from Study Abroad, transfer credit, and other departments at Brown (e.g., Comparative Literature, History, Ethnic Studies, Anthropology) toward the concentration in Hispanic Studies as long as they deal with Spanish or Latin American themes and/or Peninsular or Latin American culture. Any courses outside the Department of Hispanic Studies must be approved by the Concentration Advisor on a case by case basis. Please note that a maximum of two courses for the concentration can be taken in English, and one course can be taken S/NC. Students planning to pursue honors in the concentration must take all courses for a grade.

Total Credits = 10

**E-Portfolio:** As their capstone work, all Hispanic Studies concentrators must complete an E-Portfolio in ASK in their last year of studies. We encourage you to share your written work, your projects, and your reflections on concentration-related experiences (study abroad, community work, internships, etc.) with the wider public at Brown and beyond, but only as you see fit.

**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. 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 Hispanic Studies Concentration Advisor, 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 Honors Thesis in Hispanic Studies, please refer to our website or consult with the Concentration Advisor.

Concentration Advisor:
Felipe Martínez-Pinzón

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 concentrator 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
Courses in the "Premodern" era (P) 2
2 Courses in 3 different geographic regions 6
Field of focus 4
Capstone Seminar 1
Any combination of courses that fulfill the four requirements above for a total number of 10 courses* 3
Honors (optional) 3 additional courses related to writing a thesis (one of which, HIST 1992, can count towards your 10 concentration requirements)

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). Students who choose North America or Europe must also choose a chronological focus (i.e. Early Modern Europe. Fields in Latin America, Africa, East Asia, or Middle East/South Asia do not require a chronological definition. 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 two courses in three of the following geographic areas:
- Africa
- East Asia
- Europe
- Global
- Latin America and the Caribbean
- Middle East and South Asia
- North America

“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 geographic distribution requirement click here (https://docs.google.com/spreadsheets/d/1NT5I7zAqXDCivZxTodscdeSmMDtV26ke6550tnBrmE/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

Capstone Seminar: All concentrators must complete at least one capstone seminar (HIST 1960s and HIST 1970s series and select HIST 1980s courses). These seminars are designed to serve as an intellectual culmination of the concentration. 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.

Ideally, they will be taken in the field of focus and during the student’s junior or senior year. Students considering writing a senior honors thesis are advised to take an advanced seminar in their junior year.

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 those 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.

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

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HIST 0286B | History of Medicine II: The Development of Scientific Medicine in Europe and the World |

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

**Courses with Numbers 1000-1999**

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**Lecture Courses**

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<td>Africa, c.1850-1946: Colonial Contexts and Everyday Experiences</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>Barbarians, Byzantines, and Berbers: Early Medieval North Africa, AD 300-1050</td>
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<td>HIST 1964K</td>
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<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST 1964L</td>
<td>Slavery in the Early Modern World</td>
</tr>
<tr>
<td>HIST 1965B</td>
<td>Fin-de-Siècle Paris and Vienna</td>
</tr>
<tr>
<td>HIST 1965C</td>
<td>Stalinism</td>
</tr>
<tr>
<td>HIST 1965D</td>
<td>The USSR and the Cold War</td>
</tr>
<tr>
<td>HIST 1965E</td>
<td>Politics of the Intellectual in 20C Europe</td>
</tr>
<tr>
<td>HIST 1965H</td>
<td>Europe and the Invention of Race</td>
</tr>
<tr>
<td>HIST 1965M</td>
<td>Double Fault! Race and Gender in Modern Sports History</td>
</tr>
<tr>
<td>HIST 1965L</td>
<td>Appetite for Greatness: Cuisine, Power, and the French</td>
</tr>
<tr>
<td>HIST 1965R</td>
<td>The Crisis of Liberalism in Modern History</td>
</tr>
<tr>
<td>HIST 1967C</td>
<td>Making Revolutionary Cuba, 1959-Present</td>
</tr>
<tr>
<td>HIST 1967E</td>
<td>In the Shadow of Revolution: Mexico Since 1940</td>
</tr>
<tr>
<td>HIST 1967F</td>
<td>The Maya in the Modern World</td>
</tr>
<tr>
<td>HIST 1967Q</td>
<td>Gender and Sexuality in the Modern History of Latin America</td>
</tr>
<tr>
<td>HIST 1967R</td>
<td>History of Rio de Janeiro</td>
</tr>
<tr>
<td>HIST 1967T</td>
<td>History of the Andes from the Incas to Evo Morales</td>
</tr>
<tr>
<td>HIST 1968A</td>
<td>Approaches to the Middle East</td>
</tr>
<tr>
<td>HIST 1968V</td>
<td>America and the Middle East: Histories of Connection and Exchange</td>
</tr>
<tr>
<td>HIST 1969A</td>
<td>Israel-Palestine: Lands and Peoples I</td>
</tr>
<tr>
<td>HIST 1969B</td>
<td>Israel-Palestine: Lands and Peoples II</td>
</tr>
<tr>
<td>HIST 1969C</td>
<td>Debates in Middle Eastern History</td>
</tr>
<tr>
<td>HIST 1969D</td>
<td>Palestine versus the Palestinians</td>
</tr>
<tr>
<td>HIST 1969F</td>
<td>Nothing Pleases Me: Understanding Modern Middle Eastern History Through Literature</td>
</tr>
<tr>
<td>HIST 1970B</td>
<td>Enslaved! Indians and Africans in an Unfree Atlantic World</td>
</tr>
<tr>
<td>HIST 1970D</td>
<td>Problem of Class in Early America</td>
</tr>
<tr>
<td>HIST 1970F</td>
<td>Early American Money</td>
</tr>
<tr>
<td>HIST 1970G</td>
<td>Captive Voices: Atlantic Slavery in the Digital Age</td>
</tr>
<tr>
<td>HIST 1971D</td>
<td>From Emancipation to Obama</td>
</tr>
<tr>
<td>HIST 1972A</td>
<td>American Legal History, 1760-1920</td>
</tr>
<tr>
<td>HIST 1972E</td>
<td>Theory and Practice of Local History</td>
</tr>
<tr>
<td>HIST 1972F</td>
<td>Consent: Race, Sex, and the Law</td>
</tr>
<tr>
<td>HIST 1972G</td>
<td>Lesbian Memoir</td>
</tr>
<tr>
<td>HIST 1972H</td>
<td>U.S. Human Rights in a Global Age</td>
</tr>
<tr>
<td>HIST 1974A</td>
<td>The Silk Roads, Past and Present</td>
</tr>
<tr>
<td>HIST 1974B</td>
<td>War and Peace: A Global History</td>
</tr>
<tr>
<td>HIST 1974G</td>
<td>Nonviolence in History and Practice</td>
</tr>
<tr>
<td>HIST 1974J</td>
<td>Decolonizing Minds: A People’s History of the World</td>
</tr>
<tr>
<td>HIST 1974K</td>
<td>Maps and Empires</td>
</tr>
<tr>
<td>HIST 0656A</td>
<td>History of Intercollegiate Athletics</td>
</tr>
<tr>
<td>HIST 1974L</td>
<td>A Global Idea: Civilization(s)</td>
</tr>
<tr>
<td>HIST 1974M</td>
<td>Early Modern Globalization</td>
</tr>
</tbody>
</table>

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
### History of Art and Architecture Requirements

To complete the concentration, you will be expected to take a minimum of ten courses (11 for honors). 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. Because foreign language skills are essential for pursuing art historical studies in a professional environment or in graduate school, HIAA requires knowledge equivalent to passing a 500-level language course at Brown.

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 4 non-core courses required for the concentration (see below for core and non-core courses).

Since the history of art and architecture addresses issues of practice within specific historical contexts, concentrators are encouraged to take at least 1 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 foreign course work will relate meaningfully to the concentrators program of study.

### History of Art and Architecture

The concentration in History of Art and Architecture introduces students to the history of art, architecture, and visual culture. Students in HIAA explore Western and non-Western areas ranging over a wide period of time (Ancient, Medieval, Islamic, East Asian, Latin American, Early Modern, Modern/Contemporary). Concentrators often focus on a particular period (e.g. ancient, modern architecture), a particular branch of the field (e.g. urbanism), or a methodology (e.g. semiotics, critical interpretation, archaeology), but students may choose to create their own program of study. Concentrators will receive essential training in perceptual, historical, and critical analysis.

### 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 Undergraduate Studies, who serves as the honors advisor.

### For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
HIAA 0089 Contemporary Photography
HIAA 0321 Toward a Global Late Antiquity: 200-800 CE
HIAA 0340 Roman Art and Architecture: From Julius Caesar to Hadrian
HIAA 0400 Early Christian, Jewish, and Byzantine Art and Architecture
HIAA 0440 Gothic Art and Architecture
HIAA 0460 Muslims, Jews and Christians in Medieval Iberia
HIAA 0550 Gold, Wool and Stone: Painters and Bankers in Renaissance Tuscany
HIAA 0560 The Renaissance Embodied
HIAA 0570 The Renaissance Embodied
HIAA 0600 From Van Eyck to Bruegel
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
HIAA 0710 The Other History of Modern Architecture
HIAA 0770 Architecture and Urbanism of Africa
HIAA 0771 African American and Caribbean Architectures: Domestic Space
HIAA 0801 Art After ’68
HIAA 0810 20th Century Sculpture
HIAA 0830 Revolutionary Forms: 100 Years of Art and Politics in Latin America
HIAA 0840 History of Rhode Island Architecture
HIAA 0850 Modern Architecture
HIAA 0860 Contemporary Architecture
HIAA 0861 City and Cinema
HIAA 0870 20th Century British Art: Edwardian to Contemporary

Two core seminar courses, numbered between HIAA 1020 and HIAA 1930

HIAA 1020 Topics in East Asian Art
HIAA 1090 Writing About the Arts
HIAA 1101A Illustrating Knowledge
HIAA 1101B Seeing and Writing on Contemporary Arts
HIAA 1120B History of Urbanism, 1300-1700
HIAA 1120C History of Western European Urbanism 1200-1600
HIAA 1105 Otherworldly and Other Worlds: Representing the Unseen in Early Modern Europe
HIAA 1170B Twentieth-Century American Painting
HIAA 1181 Prefabrication and Architecture
HIAA 1182 Spaces and Institutions of Modernity
HIAA 1200A Ancient Art in the RISD Collection
HIAA 1200D Pompeii
HIAA 1201 Brushwork: Chinese Painting in Time
HIAA 1300 Topics in Classical Art and Architecture
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 1304 Spectacle! Games, Gladiators, Performance, and Ceremony in the Roman World
HIAA 1310 Topics in Hellenistic Art
HIAA 1400F Research Seminar Gothic Art
HIAA 1410A Topics in Islamic Art: Islamic Art and Architecture on the Indian Subcontinent
HIAA 1410B Painting in Mughul India 1550-1650
HIAA 1430A The Visual Culture of Medieval Women
HIAA 1440D The Gothic Cathedral
HIAA 1440F Architectural Reuse: The Appropriation of the Past
HIAA 1440B Architecture of Solitude: The Medieval Monastery
HIAA 1460 Topics in Medieval Archaeology
HIAA 1550B Topics in the Early History of Printmaking: Festival and Carnival
HIAA 1550A Prints and Everyday Life in Early Modern Europe
HIAA 1560A Italy and the Mediterranean
HIAA 1560B Mannerism
HIAA 1560C Renaissance Venice and the Veneto
HIAA 1560D Siena from Simone Martini to Beccafumi
HIAA 1560E The Arts of Renaissance Courts
HIAA 1560F Topics in Italian Visual Culture: The Visible City, 1400-1800
HIAA 1600A Bosch and Bruegel: Art Turns the World Upside Down
HIAA 1600B Caravaggio
HIAA 1600C Italian Baroque Painting and Sculpture
HIAA 1600D The Art of Peter Paul Rubens
HIAA 1600E The World Turned Upside Down
HIAA 1600F Antwerp: Art and Urban History
HIAA 1600G Art + Religion in Early Modern Europe
HIAA 1600H Comedy in Netherlandish Art From Hieronymus Bosch to Jan Steen
HIAA 1600I Collections and Visual Knowledge in Early Modern Europe: 1400-1800
HIAA 1600J Rembrandt
HIAA 1650A About Face: English Portraiture: 1600-1800
HIAA 1650B Visualizing Revolutionary Bodies 1785-1815
HIAA 1650C Visual Culture and the Production of Identity in the Atlantic World, 1700-1815
HIAA 1650D Souvenirs: Remembering the Pleasures and Perils of the Grand Tour
HIAA 1711 Black and White: Imagining Africans and African Americans in Visual Culture
HIAA 1770 Architecture and Visual Culture of Empire
HIAA 1811 Possible Futures: Art and the Social Network before the Internet (1950-1979)
HIAA 1850A Frank Lloyd Wright
HIAA 1850D Film Architecture
HIAA 1850E Architecture, Light and Urban Screens
HIAA 1850G Contemporary American Urbanism: City Design and Planning, 1945-2000
HIAA 1850H Berlin: Architecture, Politics and Memory
HIAA 1870 Cannibalism, Inversion, and Hybridity: Creative Disobedience in the Americas
HIAA 1890E SoCal: Art in Los Angeles, 1945-Present

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

**HIAA 1890G**  
Contemporary Art of Africa and the Diaspora

**HIAA 1910A**  
Providence Architecture

**HIAA 1910B**  
Project Seminar: The Architecture of Bridges

**HIAA 1910D**  
Water and Architecture

**HIAA 1910E**  
Project Seminar for Architectural Studies

**HIAA 1910F**  
City Senses: Urbanism Beyond Visual Spectacle

**HIAA 1920**  
Individual Study Project in the History of Art and Architecture

**HIAA 1930**  
The History and Methods of Art Historical Interpretation

**HIAA 1990**  
Honors Thesis

Four elective courses. These can include courses taught in the department, cross-listed courses from other departments, or courses in other departments approved by the concentration advisor. HIAA 0010 may count as one of these courses but cannot count as one of the four core lecture courses. Students are encouraged to take a studio class as part of this requirement.  

<table>
<thead>
<tr>
<th>Total Credits</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 The six core lecture and seminar courses must be taken in the History of Art and Architecture department and cannot be replaced with independent study, honors thesis or classes taken in other departments, universities, or high schools.</td>
<td></td>
</tr>
</tbody>
</table>
| 2 A maximum of two (2) credits may be allowed for courses taken at other universities (transfer credits or from study abroad) or courses that also count toward a second concentration. No concentration credit will be granted for AP/A-level scores, or for language classes.

### Architectural Studies Track

The **Optional** Architectural Studies track within the History of Art and Architecture concentration blends a variety of disciplines toward the study of buildings and the built environment. The concentration prepares students for the continued study of architecture and the history of architecture in graduate school as well as careers in related areas such as urban studies.

Because the architectural studies program was especially designed for students wishing to gain greater experience in the practical skills necessary for a career in architecture or a related field, concentrators are required to take a course in design from the Visual Arts Department, the Rhode Island School of Design or an introduction to architectural design, theatre set design at Brown University.

Four lecture courses. These courses will be numbered between HIAA 0020 and HIAA 0940 and will be marked with an "A" in the course description. The courses must be distributed over three of seven areas in architectural history: Ancient; Medieval; Islamic; East Asian; Latin American; Early Modern (ca. 1400-1800); Modern/Contemporary.

<table>
<thead>
<tr>
<th>HIAA 0040</th>
<th>Introduction to Medieval Art and Architecture</th>
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<tbody>
<tr>
<td>HIAA 0042</td>
<td>Islamic Art and Architecture</td>
</tr>
<tr>
<td>HIAA 0031</td>
<td>Pre-Islamic Empires of Iran</td>
</tr>
<tr>
<td>HIAA 0041</td>
<td>The Architectures of Islam</td>
</tr>
<tr>
<td>HIAA 0061</td>
<td>Baroque</td>
</tr>
<tr>
<td>HIAA 0062</td>
<td>Dutch and Flemish Art: Visual Culture of the Netherlands in the Seventeenth Century</td>
</tr>
<tr>
<td>HIAA 0070</td>
<td>Introduction to American Art: The 19th Century</td>
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<tr>
<td>HIAA 0075</td>
<td>Introduction to the History of Art: Modern Photography</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>HIAA 0081</th>
<th>Architecture of the House Through Space and Time</th>
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<tbody>
<tr>
<td>HIAA 0089</td>
<td>Contemporary Photography</td>
</tr>
<tr>
<td>HIAA 0321</td>
<td>Toward a Global Late Antiquity:200-800 CE</td>
</tr>
<tr>
<td>HIAA 0340</td>
<td>Roman Art and Architecture: From Julius Caesar to Hadrian</td>
</tr>
<tr>
<td>HIAA 0400</td>
<td>Early Christian, Jewish, and Byzantine Art and Architecture</td>
</tr>
<tr>
<td>HIAA 0440</td>
<td>Gothic Art and Architecture</td>
</tr>
<tr>
<td>HIAA 0460</td>
<td>Muslims, Jews and Christians in Medieval Iberia</td>
</tr>
<tr>
<td>HIAA 0550</td>
<td>Gold, Wool and Stone: Painters and Bankers in Renaissance Tuscany</td>
</tr>
<tr>
<td>HIAA 0560</td>
<td>Constructing the Eternal City: Popes and Pilgrims in Early Modern Rome</td>
</tr>
<tr>
<td>HIAA 0570</td>
<td>The Renaissance Embodied</td>
</tr>
<tr>
<td>HIAA 0580</td>
<td>Word, Image and Power in Renaissance Italy</td>
</tr>
<tr>
<td>HIAA 0600</td>
<td>From Van Eyck to Bruegel</td>
</tr>
<tr>
<td>HIAA 0630</td>
<td>Cultural History of the Netherlands in a Golden Age and a Global Age</td>
</tr>
<tr>
<td>HIAA 0710</td>
<td>The Other History of Modern Architecture</td>
</tr>
<tr>
<td>HIAA 0770</td>
<td>Architecture and Urbanism of Africa</td>
</tr>
<tr>
<td>HIAA 0771</td>
<td>African American and Caribbean Architectures: Domestic Space</td>
</tr>
<tr>
<td>HIAA 0801</td>
<td>Art After '68</td>
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<tr>
<td>HIAA 0810</td>
<td>20th Century Sculpture</td>
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<tr>
<td>HIAA 0830</td>
<td>Revolutionary Forms: 100 Years of Art and Politics in Latin America</td>
</tr>
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<td>HIAA 0861</td>
<td>City and Cinema</td>
</tr>
<tr>
<td>HIAA 0870</td>
<td>20th Century British Art: Edwardian to Contemporary</td>
</tr>
</tbody>
</table>

One seminar or independent study in architectural history, numbered between HIAA 1100 and HIAA 1890, and marked with an "A" in the course description.

| HIAA 1101A | Illustrating Knowledge                          |
| HIAA 1101B | Seeing and Writing on Contemporary Arts         |
| HIAA 1120B | History of Urbanism, 1300-1700                 |
| HIAA 1120C | History of Western European Urbanism 1200-1600 |
| HIAA 1150C | El Greco and Velazquez                          |
| HIAA 1150D | El Greco and the Golden Age of Spanish Painting |
| HIAA 1170B | Twentieth-Century American Painting             |
| HIAA 1181 | Prefabrication and Architecture                 |
| HIAA 1200A | Ancient Art in the RISD Collection              |
| HIAA 1200D | Pompeii                                        |
| HIAA 1201 | Brushwork: Chinese Painting in Time             |
| HIAA 1300 | Topics in Classical Art and Architecture        |
| 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 1310 | Topics in Hellenistic Art                       |
| HIAA 1360X | The Aesthetics of Color: History, Theory, Critique (GNSS 1960X) |
| HIAA 1400F | Research Seminar Gothic Art                     |

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
The studio course may be taken at Brown, RISD, Harvard Career studies. They may also include a select number of non-cross-courses in other departments that are pertinent to architectural in years where no project seminar is offered, any seminar that in the History of Art and Architecture department and cross-listed. The two seminars cannot be replaced with independent study, honors thesis, or classes taken in other departments or universities.

1. The two seminars cannot be replaced with independent study, honors thesis, or classes taken in other departments or universities.
2. In years where no project seminar is offered, any seminar that qualifies for architectural studies can become the starting point for a senior project.
3. The studio course may be taken at Brown, RISD, Harvard Career Discovery and similar six week + summer programs.
4. The non-cross-listed courses include but are not limited to MATH 0090, MATH 0100, PHYS 0030, PHYS 0040, ENGN 0030, Urban Studies and Engineering courses, and scenic design and technical production courses offered by the department of Theatre Arts and Performance Studies.
5. A maximum of two credits may be awarded for courses taken at other universities or for courses that count toward a second concentration. No concentration credit is awarded for high school AP/A-level courses or for language courses.

The below pertains to ALL concentrators in the department:

**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. For students doing a capstone, their capstone director will read this essay. A department subcommittee will read essays written by students not electing to do a capstone. The self-assessment should be turned in with a revised list of courses actually taken and the final paperwork for concentration approval.

**Capstone Project**

At the beginning of your senior year you will be actively encouraged to propose and undertake a Capstone Project. The Capstone Project is intended to challenge you with an opportunity to synthesize at a high level of achievement the knowledge and understanding you have gained by concentrating in the History of Art and Architecture or Architectural Studies. To propose and work on a Capstone Project you will need the support of a faculty sponsor. Capstone Projects embrace many possibilities. You can perfect a seminar paper in which you have developed a strong interest. You can participate in a graduate seminar to which the instructor has admitted you. You can serve as an undergraduate TA. You can work as an intern in museums and auction houses such as Christie’s. You might work on an archaeological excavation. You can participate in the Honors Program. Beyond these opportunities, the Department is open to other approaches. You should work with a faculty sponsor and with the Undergraduate Concentration Advisor to decide what will work best for you.

**Honors**

The Honors program in History of Art & Architecture and Architectural Studies will be administered as follows: accepted students will sign up for HIAA 1990 in the Fall and in the Spring. In the Fall, students will meet regularly with the whole Honors group and HIAA faculty to discuss methodology and general research and writing questions. In the Spring, students will continue to meet to present their research in progress to each other for comment and feedback. They will also be meeting regularly with their advisors and second readers throughout the year. 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 on April 1 of the Spring semester. Comments will be returned to the students for final corrections at that point. There will be a public presentation of the Honors work at the end of the Spring semester. Students wishing to write an honors thesis should have an ‘A’ average in the concentration. 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.

**Honors Application Process**

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 and Architectural Studies.

**Admission to the Honors Program**

1. To be admitted to the Honors Program you should have produced consistently excellent work and maintained a high level of
achievement in all your concentration course. You should have earned an A grade in most of your concentration courses.

2. The key project for honors is to write an honors thesis. When you apply for admission you will be asked to submit a proposal of no more than two double-spaced pages that states the topic (subject and argument) of the research to be undertaken as clearly as possible, and add a one-page bibliography of the most relevant books and major articles to be consulted for the project. This three page application should be submitted, along with a résumé and a printout of the student’s most recent available transcript and submitted to the Department with a short cover letter stating who you feel the most appropriate advisor and second readers are for the thesis and why, and what your preparation is for this project. Clarity and brevity are considered persuasive virtues in this process. Applicants will be notified about the success of their applications at the end of the semester.

3. For admission to the Honor Program you must include with your proposal a letter of support from a faculty member of the History of Art and Architecture Department who has agreed to serve as your thesis advisor. You should discuss the thesis topic with your advisor before you submit your proposal. During the process of researching and writing you will meet regularly with your advisor to discuss your work.

Writing the Honors Thesis

1. If you are accepted into the Honors Program you will register for HIAA 1990 during the two semesters when you are working on a thesis. This is a seminar led by the Department Undergraduate Concentration Advisor in which all honors students meet once a month to present the current progress of their work. It is a valuable opportunity to share ideas and receive feedback from your fellow honors students and faculty alike. The honors seminar also offers a practical framework around which you can organize the progress of your work.

2. You will meet regularly with your thesis advisor and with a second reader to develop your ideas and writing.

3. 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 April 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 the Honors work at the end of the Spring semester.

Independent Concentration

The Independent Concentration program is for exceptionally dedicated students who are willing to spend extra time and effort creating 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 fields in the academy, such as "Educational Neuroscience," or broader interdisciplinary areas, such as "Migration Studies." The proposal process consists of:

1. Meeting with the Curricular Resource Center's IC Peer Coordinators (https://www.brown.edu/academics/college/advising/curricular-resource-center/brown.edu/goic);
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. (Optional: 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-icners)).

Independent concentration proposals are reviewed and approved by the College Curriculum Council.

International and Public Affairs

Development Track Concentration Requirements

Gateway course (choose 1)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>IAPA 1000</td>
<td>Global Health, Humanitarianism, and Inequality</td>
</tr>
<tr>
<td>POLS 1020</td>
<td>Politics of the Illicit Global Economy</td>
</tr>
</tbody>
</table>

Junior Seminar (choose 1)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>IAPA 1401</td>
<td>Economic Development in Latin America</td>
</tr>
<tr>
<td>IAPA 1802C</td>
<td>Infrastructure!</td>
</tr>
<tr>
<td>IAPA 1813A</td>
<td>Revolutions that Changed the World</td>
</tr>
<tr>
<td>IAPA 1700F</td>
<td>Engaged Research Engaged Publics</td>
</tr>
</tbody>
</table>

Senior Seminar (choose 1 from either a Senior Thesis Seminar or a Senior Capstone Seminar)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>IAPA 1816A</td>
<td>Senior Thesis Seminar</td>
</tr>
<tr>
<td>IAPA 1808C</td>
<td>Thesis Writing in Development Studies</td>
</tr>
<tr>
<td>IAPA 1850</td>
<td>Senior Honors Seminar</td>
</tr>
</tbody>
</table>

Capstone Seminars:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>IAPA 1802A</td>
<td>Bilateral and Multilateral Policy and Diplomacy</td>
</tr>
<tr>
<td>IAPA 1806A</td>
<td>Diplomacy, Economics &amp; Influence</td>
</tr>
<tr>
<td>MPA 2772</td>
<td>Disaster, Displacement and Response: A Practitioner, People-Focused Lens on Urban Policy &amp; Practice</td>
</tr>
<tr>
<td>IAPA 1814A</td>
<td>Roots of Crisis in Central America</td>
</tr>
</tbody>
</table>

Methods courses: Choose 2 (one must be qualitative and one quantitative)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>IAPA 1500</td>
<td>Methods in Development Research</td>
</tr>
</tbody>
</table>

Qualitative:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</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>
</tr>
<tr>
<td>or EDUC 1110</td>
<td>Introductory Statistics for Education Research and Policy Analysis</td>
</tr>
</tbody>
</table>

Quantitative:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>IAPA 1800A</td>
<td>Diplomacy, Economics &amp; Influence</td>
</tr>
</tbody>
</table>

Language Study Option: One of the two methods requirements, either the qualitative or quantitative course, can be substituted by four semesters of the study of a language other than English.

IAPA 0200 Foundations of Development

5 Electives (for example):

Development and the Global Economy

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 0510</td>
<td>Development and the International Economy</td>
</tr>
<tr>
<td>ECON 1540</td>
<td>International Trade</td>
</tr>
<tr>
<td>ECON 1550</td>
<td>International Finance</td>
</tr>
<tr>
<td>HIST 0202</td>
<td>African Experiences of Empire</td>
</tr>
<tr>
<td>HIST 1050</td>
<td>Africa and the Transatlantic Slave Trade</td>
</tr>
<tr>
<td>HIST 1620</td>
<td>Resisting Empire: Gandhi and the Making of Modern South Asia</td>
</tr>
<tr>
<td>IAPA 1806A</td>
<td>Diplomacy, Economics &amp; Influence</td>
</tr>
<tr>
<td>POLS 1420</td>
<td>Money and Power in the International Political Economy</td>
</tr>
<tr>
<td>SOC 1620</td>
<td>Globalization and Social Conflict</td>
</tr>
</tbody>
</table>

Development and Inequality

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>ANTH 1301</td>
<td>Anthropology of Homelessness</td>
</tr>
<tr>
<td>ECON 1370</td>
<td>Race and Inequality in the United States</td>
</tr>
<tr>
<td>ECON 1375</td>
<td>Inequality of Opportunity in the US</td>
</tr>
</tbody>
</table>

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
EDUC 0620  Cradle of Inequality: The Role of Families, Schools, and Neighborhoods
POLS 1150  Prosperity: The Ethics and Economics of Wealth Creation
SOC 1871S  Legacies of Inequality: The U.S. and Beyond

**Development and Health**

AFRI 0550  African American Health Activism from Emancipation to AIDS
ANTH 1020  AIDS in Global Perspective
ANTH 1310  International Health: Anthropological Perspectives
ECON 1530  Health, Hunger and the Household in Developing Countries
HIST 1960Q  Medicine and Public Health in Africa
PHP 1070  The Burden of Disease in Developing Countries
PHP 1100  Comparative Health Care Systems
PHP 1680I  Pathology to Power: Disability, Health and Community
PHP 1680U  Intersectionality and Health Inequities

**Development in National and Regional Contexts**

IAPA 1805C  Caribbean and Pacific Small States: On the Margins of Development
ECON 1570  The Economics of Latin Americans
HIST 1310  History of Brazil
HIST 1455  In the Making of the Modern Middle East
HIST 1967E  In the Shadow of Revolution: Mexico Since 1940
POLS 1280  Politics, Economy and Society in India
POLS 1290  The Rise of China

**Development and the Environment**

AMST 0190M  Ecological (De)Colonization: North American Environmental History, Justice, and Sovereignty
ECON 1355  Environmental Issues in Development Economics
ENVS 0705  Equity and the Environment: Movements, Scholarship, Solutions
ENVS 1555  Urban Agriculture: The Importance of Localized Food Systems
ENVS 1574  Engaged Climate Policy in the U.S.: Rhode Island and Washington, DC
ENVS 1580  Environmental Stewardship and Resilience in Urban Systems
HIST 0270B  From the Columbian Exchange to Climate Change: Modern Global Environmental History

**Development, Race, and Gender**

AFRI 0210  Afro Latin Americans and Blackness in the Americas
AFRI 0670  Global Black Radicalism
AFRI 1210  Afro-Brazilians and the Brazilian Polity
ANTH 1624  Indians, Colonists, and Africans in New England
EAST 1950B  Chinese Women, Gender and Feminism from Historical and Transnational Perspectives
ETHN 1750L  Latina Feminisms
POLS 1530  Gender, Slavery, and Freedom

**SOC 1270  Race, Class, and Ethnicity in the Modern World**

| Total Credits | 11 |

**Security Track Concentration Requirements**

**Gateway course (choose 1)**

IAPA 0100  Global Health, Humanitarianism, and Inequality
POLS 1020  Politics of the Illicit Global Economy

**Junior Seminar (choose 1)**

IAPA 1401  Economic Development in Latin America
IAPA 1813A  Revolutions that Changed the World
IAPA 1700F  Engaged Research Engaged Publics

**Senior Seminar (choose 1 from either a Senior Thesis Seminar or a Senior Capstone Seminar)**

IAPA 1816A  Senior Honors Seminar
IAPA 1808C  Thesis Writing in Development Studies
IAPA 1809C  Senior Thesis Preparation

**Thesis Seminars:**

IAPA 1814A  Roots of Crisis in Central America

**Capstone Seminars:**

IAPA 1802A  Bilateral and Multilateral Policy and Diplomacy
IAPA 1806A  Diplomacy, Economics & Influence
IAPA 1814A  Roots of Crisis in Central America

**Methods courses: Choose 2 (one must be qualitative and one quantitative)**

**Qualitative:**

IAPA 1500  Methods in Development Research

**Quantitative:**

ECON 1620  Introduction to Econometrics
or SOC 1100  Introductory Statistics for Social Research
or EDUC 1110  Introductory Statistics for Education Research and Policy Analysis

**Language Study Option:** One of the two methods requirements - either the qualitative or quantitative course, can be substituted by four semesters of the study of a language other than English

IAPA1200  Foundations of Security

| Five Electives (for example): | 5 |

**Geopolitics and Conflict**

CSCI 1800  Cybersecurity and International Relations
HIST 0276  A Global History of the Atomic Age
HIST 1155  Japan's Pacific War: 1937-1945
HIST 1240A  Politics of Violence in 20C Europe
LACA 1503P  Consuming the Cold War in the Caribbean
POLS 0400  Introduction to International Politics
POLS 1550  War and Politics
POLS 1822A  Nuclear Weapons and International Politics
POLS 1822I  Geopolitics of Oil and Energy

**Intrastate and Intrasocietal Conflict**

AMST 1905O  Reading and Righting Histories of Violence
HISP 1020A  Spanish Civil War in Literature and the Visual Arts
ENGL 1511A  American Literature and the Civil War
HIST 0252  The American Civil War in Global Perspective: History, Law, and Popular Culture
HIST 1080  Humanitarianism and Conflict in Africa

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>HIST 1969A</td>
<td>Israel-Palestine: Lands and Peoples I</td>
</tr>
<tr>
<td>HIST 1969D</td>
<td>Palestine versus the Palestinians</td>
</tr>
<tr>
<td>PHP 1802S</td>
<td>Human Security and Humanitarian Response: Increasing Effectiveness and</td>
</tr>
<tr>
<td></td>
<td>Accountability</td>
</tr>
<tr>
<td>POLS 1380</td>
<td>Ethnic Politics and Conflict</td>
</tr>
<tr>
<td>POLS 1440</td>
<td>Security, Governance and Development in Africa</td>
</tr>
<tr>
<td>RELS 0090M</td>
<td>Islam, Violence and Media</td>
</tr>
<tr>
<td>SOC 1270</td>
<td>Race, Class, and Ethnicity in the Modern World</td>
</tr>
<tr>
<td>SOC 1620</td>
<td>Globalization and Social Conflict</td>
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<tr>
<td><strong>Total Credits</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11</td>
</tr>
</tbody>
</table>

### Undergraduate Concentrations

#### Empire, Imperialism, and Conflict
- HIST 0202 - African Experiences of Empire
- HIST 0522G - An Empire and Republic: The Dutch Golden Age
- HIST 1268A - The Rise of the Russian Empire
- HIST 1268C - The Collapse of Socialism and the Rise of New Russia
- HIST 1620 - Resisting Empire: Gandhi and the Making of Modern South Asia
- HIST 1976I - Imperialism and Environmental Change
- IAPA 1203 - History of American Intervention

#### Domestic Security and Policing
- AFRI 1030 - Contesting the Carceral State
- HIST 0150C - Locked Up: A Global History of Prison and Captivity
- HIST 0523B - State Surveillance in History

#### Conflict, Displacement, and Refugees
- ANTH 1232 - War and Society
- HIST 0150D - Refugees: A Twentieth-Century History
- ENVS 0160 - Migration and Borders in a Time of Climate Crisis

#### Conflict and Human Rights
- POLS 1500 - The International Law and Politics of Human Rights
- POLS 1821K - Just War Theory
- POLS 1822U - War and Human Rights

### Policy and Governance Concentration

#### Requirements

**Gateway course (choose 1)**
- IAPA 0100 - Global Health, Humanitarianism, and Inequality
- POLS 1020 - Politics of the Illicit Global Economy

**Junior Seminar (choose 1)**
- IAPA 1401 - Economic Development in Latin America
- IAPA 1802C - Infrastructure!
- IAPA 1813A - Revolutions That Changed the World
- IAPA 1700F - Engaged Research Engaged Publics

**Senior Seminar (choose 1 from either a Senior Thesis Seminar or a Senior Capstone Seminar)**

**Thesis Seminars:**
- IAPA 1816A - Senior Honors Seminar
- IAPA 1808C - Thesis Writing in Development Studies
- IAPA 1850 - Senior Honors Seminar

**Capstone Seminars:**
- IAPA 1802A - Bilateral and Multilateral Policy and Diplomacy
- IAPA 1806A - Diplomacy, Economics & Influence

**Total Credits** | **11**

### Methods courses: choose 2 (one must be qualitative and one must be quantitative)

**Qualitative:**
- IAPA 1500 - Methods in Development Research

**Quantitative:**
- ECON 1620 - Introduction to Econometrics
- or SOC 1100 - Introductory Statistics for Social Research
- or EDUC 1110 - Introductory Statistics for Education Research and Policy Analysis

**Language Study Option:** One of the two methods requirements - either the qualitative or quantitative course, can be substituted by four semesters of the study of a language other than English.

**IAPA 0110** - Introduction to Public Policy | **1**

### Five electives, for example:

**Health Policy**
- AFRI 1920 - Health Inequality in Historical Perspective
- ANTH 1020 - AIDS in Global Perspective
- PHP 1100 - Comparative Health Care Systems
- PHP 1680U - Intersectionality and Health Inequities
- IAPA 1804E - Health Policy Challenges
- SOC 1550 - Sociology of Medicine

**Public Policy and Gender**
- HIST 1977I - Gender, Race, and Medicine in the Americas
- POLS 1821S - Women and Politics
- POLS 1823Z - Gender and Public Policy

**Education and Policy**
- ECON 1301 - Economics of Education I
- EDUC 0410B - Controversies in American Education Policy: A Multidisciplinary Approach
- EDUC 1060 - Politics and Public Education
- EDUC 1650 - Policy Implementation in Education

**Policy and Inequality**
- ECON 1370 - Race and Inequality in the United States
- ECON 1375 - Inequality of Opportunity in the US
- SOC 1871S - Legacies of Inequality: The U.S. and Beyond

**Policy, Social Movements, and Social Action**
- AFRI 1260 - The Organizing Tradition of the Southern Civil Rights Movement
- AMST 1906R - Law and Transformative Social Change
- ETHN 1750A - Immigrant Social Movements: Bridging Theory and Practice
- IAPA 1700B - Investigating Modes of Social Change
- IAPA 1700F - Engaged Research Engaged Publics
- IAPA 1803E - Social Entrepreneurship

**Public Policy and Social Welfare**
- ECON 1170 - Welfare Economics and Social Choice Theory
- HIST 0654A - Welfare States and a History of Modern Life
- POLS 1824K - The American Welfare State in Comparative Perspective

**Urban Policy**
- ENVS 1580 - Environmental Stewardship and Resilience in Urban Systems
- POLS 1824D - Power and Prosperity in Urban America
- SOC 1330 - Remaking the City
- URBN 1250 - The Political Foundations of the City

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTH 0110</td>
<td>Anthropology and Global Social Problems: Environment, Development, and Governance</td>
</tr>
<tr>
<td>ECON 0110</td>
<td>Principles of Economics</td>
</tr>
<tr>
<td>POLS 0400 or POLS 0200</td>
<td>Introduction to International Politics</td>
</tr>
<tr>
<td>SOC 1620</td>
<td>Globalization and Social Conflict</td>
</tr>
</tbody>
</table>

Plus 1 History course from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST 0150A</td>
<td>History of Capitalism</td>
</tr>
<tr>
<td>HIST 0203</td>
<td>Modern Africa: From Empire to Nation-State</td>
</tr>
<tr>
<td>HIST 0218</td>
<td>The Making of Modern East Asia</td>
</tr>
<tr>
<td>HIST 0244</td>
<td>Understanding the Middle East: 1800s to the Present</td>
</tr>
<tr>
<td>HIST 0270B</td>
<td>From the Columbian Exchange to Climate Change: Modern Global Environmental History</td>
</tr>
<tr>
<td>HIST 1121</td>
<td>The Modern Chinese Nation: An Idea and Its Limits</td>
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</table>

**Track Requirements (five courses distributed between the sub-themes):**

- **Governance and Diplomacy (two or three courses):**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>COLT 1812V</td>
<td>War, Anti-War, Postwar: Culture and Contestation in the Americas</td>
</tr>
<tr>
<td>CSCI 1800</td>
<td>Cybersecurity and International Relations</td>
</tr>
<tr>
<td>ENVS 0160</td>
<td>Migration and Borders in a Time of Climate Crisis</td>
</tr>
</tbody>
</table>

- **Security and Society (three courses):**

<table>
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<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>ENVS 1575</td>
<td>Engaged Climate Policy at the UN Climate Change Talks</td>
</tr>
<tr>
<td>FREN 1900H</td>
<td>La France en guerre</td>
</tr>
<tr>
<td>GNSS 1960M</td>
<td>Sense and Scientific Sensibility: Beyond Vision, From the Scientific Revolution to Now</td>
</tr>
<tr>
<td>HIST 0150C</td>
<td>Locked Up: A Global History of Prison and Captivity</td>
</tr>
<tr>
<td>HIST 0276</td>
<td>A Global History of the Atomic Age</td>
</tr>
<tr>
<td>HIST 0523B</td>
<td>State Surveillance in History</td>
</tr>
<tr>
<td>HIST 0559A</td>
<td>Culture and U.S. Empire</td>
</tr>
<tr>
<td>HIST 1972H</td>
<td>U.S. Human Rights in a Global Age</td>
</tr>
<tr>
<td>HMAN 1971T</td>
<td>Law, Nationalism, and Colonialism</td>
</tr>
<tr>
<td>IAPA 1203</td>
<td>History of American Intervention</td>
</tr>
<tr>
<td>IAPA 1205</td>
<td>International Law</td>
</tr>
<tr>
<td>IAPA 1807A</td>
<td>International Journalism: Foreign Reporting in Practice</td>
</tr>
<tr>
<td>IAPA 1801A</td>
<td>History of American Intervention</td>
</tr>
<tr>
<td>IAPA 1802A</td>
<td>Bilateral and Multilateral Policy and Diplomacy</td>
</tr>
<tr>
<td>IAPA 1804A</td>
<td>Iran and the Islamic Revolution</td>
</tr>
<tr>
<td>IAPA 1814A</td>
<td>Roots of Crisis in Central America</td>
</tr>
<tr>
<td>IAPA 1815A</td>
<td>Computers, Freedom and Privacy: Current Topics in Law and Policy</td>
</tr>
<tr>
<td>ITAL 0751</td>
<td>When Leaders Lie: Machiavelli in International Context</td>
</tr>
<tr>
<td>POBS 1601C</td>
<td>From Dictatorship to Democracy in the Iberian Peninsula: Transformations and Current Challenges</td>
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<tr>
<td>POLS 1020</td>
<td>Politics of the Illicit Global Economy</td>
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<tr>
<td>POLS 1220</td>
<td>Politics in Russia and Eastern Europe</td>
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<td>POLS 1260</td>
<td>Maps and Politics</td>
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<tr>
<td>POLS 1360</td>
<td>U.S. Gender Politics</td>
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<tr>
<td>POLS 1380</td>
<td>Ethnic Politics and Conflict</td>
</tr>
<tr>
<td>POLS 1390</td>
<td>Global Governance</td>
</tr>
<tr>
<td>POLS 1410</td>
<td>International Security in a Changing World</td>
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<tr>
<td>POLS 1430</td>
<td>Roots of Radical Islam</td>
</tr>
<tr>
<td>POLS 1440</td>
<td>Security, Governance and Development in Africa</td>
</tr>
<tr>
<td>POLS 1475</td>
<td>War and Peace</td>
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<td>POLS 1480</td>
<td>Theory of International Relations</td>
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<tr>
<td>POLS 1485</td>
<td>Global Justice</td>
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<tr>
<td>POLS 1500</td>
<td>The International Law and Politics of Human Rights</td>
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<tr>
<td>POLS 1550</td>
<td>War and Politics</td>
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<td>POLS 1560</td>
<td>American Foreign Policy</td>
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<td>POLS 1820H</td>
<td>Contraband Capitalism: States and Illegal Global Markets</td>
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<tr>
<td>POLS 1820N</td>
<td>International Relations in Europe</td>
</tr>
<tr>
<td>POLS 1821M</td>
<td>War in Film and Literature</td>
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<tr>
<td>POLS 1821P</td>
<td>Political Psychology of International Relations</td>
</tr>
<tr>
<td>POLS 1822A</td>
<td>Nuclear Weapons and International Politics</td>
</tr>
<tr>
<td>POLS 1822I</td>
<td>Geopolitics of Oil and Energy</td>
</tr>
<tr>
<td>POLS 1822J</td>
<td>Ethics of War and Peace</td>
</tr>
<tr>
<td>POLS 1822K</td>
<td>Laws of Violence</td>
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<tr>
<td>POLS 1822L</td>
<td>Comparative Constitutional Law</td>
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<tr>
<td>POLS 1822R</td>
<td>The Politics of Food Security</td>
</tr>
<tr>
<td>POLS 1822U</td>
<td>War and Human Rights</td>
</tr>
<tr>
<td>POLS 1822X</td>
<td>Technology and International Politics</td>
</tr>
</tbody>
</table>

*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 1823T The International Politics of Climate Change
POLS 1823Y Global Governance
POLS 1824B Post Conflict Politics
POLS 1824Q The International Politics of Climate Change

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 International Health: Anthropological Perspectives
ANTH 1411 Nations within States
ANTH 1412 Anthropology of State Power and Powerlessness
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 0200F How We Became Machines
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 1809C Senior Thesis Preparation
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 1600I The End of Empires? A Global History of Decolonization
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 1821I 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
EDUC 1100 Introduction to Qualitative Research Methods
EDUC 1110 Introductory Statistics for Education Research and Policy Analysis
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

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Political Economy and Society Track

Core Courses

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
POL 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 National-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):

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

Political Economy (two or three courses):

ANTH 0450 Inequality, Sustainability, and Mobility in a Car-Clogged World
ANTH 1020 AIDS in Global Perspective
ANTH 1320 Anthropology and International Development: Ethnographic Perspectives on Poverty and Progress
ANTH 1324 Money, Work, and Power: Culture and Economics
ECON 1350 Environmental Economics and Policy
ECON 1486 The Economic Analysis of Political Behavior
ENVS 0510 International Environmental Law and Policy
ENVS 1350 Environmental Economics and Policy
ENVS 1355 Environmental Issues in Development Economics (ECON 1355)
ENVS 1720 Environmental Justice: The Science and Political Economy of Environmental Health and Social Justice
ENVS 1755 Globalization and the Environment
ENVS 1925 Energy Policy and Politics
ETHN 1890C Business, Culture, and Globalization: An Ethnographic Perspective
HIST 0150A History of Capitalism
IAPA 1401 Economic Development in Latin America
IAPA 1806A Diplomacy, Economics & Influence
IAPA 1804 The Political Economy of Strategy: From the Financial Revolution to the Revolution in Military Affa
IAPA 1805A Politics of International Finance
IAPA 1808A Risk, Regulation and the Comparative Politics of Finance
IAPA 1810A Perspectives in Human Capital: Investing in Women as a Strategy for Global Growth
IAPA 1806A Diplomacy, Economics & Influence
IAPA 1808A Risk, Regulation and the Comparative Politics of Finance
IAPA 1810A Perspectives in Human Capital: Investing in Women as a Strategy for Global Growth
POLS 1020 Politics of the Illicit Global Economy
POLS 1150 Prosperity: The Ethics and Economics of Wealth Creation
POLS 1200 Reimagining Capitalism
POLS 1210 Latin American Politics
POLS 1240 Politics, Markets and States in Developing Countries
POLS 1280 Politics, Economy and Society in India
POLS 1415 Classics of Political Economy
POLS 1420 Money and Power in the International Political Economy
POLS 1450 Development in Theory and Practice
POLS 1460 International Political Economy
POLS 1465 Introduction to Political Economy
POLS 1490 Building a Better World: Film and Social Change
POLS 1540 Politics of Nuclear Weapons
POLS 1730 Politics of Globalization

Total Credits: 14

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
POLS 1820H  Contraband Capitalism: States and Illegal Global Markets  
POLS 1821O  Politics of Economic Development in Asia  
POLS 1821X  The Politics of Social Welfare in the Middle East  
POLS 1822F  Social Movements and Struggles for Justice  
POLS 1822H  Patronage and Corruption in Comparative Perspective  
POLS 1822I  Geopolitics of Oil and Energy  
POLS 1822M  Capitalism: For and Against  
POLS 1822T  Politics of Health in the Global South  
POLS 1823O  The Political Economy of Renewable Energy  
POLS 1824J  Culture, Identity and Development  
SOC 1600  Comparative Development  
SOC 1650  Unequal Societies  
SOC 1870K  Demographics and Development  
SOC 1870L  The Economic Foundations of Everyday Life  
SOC 1871R  Knowledge Networks and Global Transformation  
SOC 1872B  Sociology of Money  

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  
EDUC 1100  Introduction to Qualitative Research Methods  
EDUC 1110  Introductory Statistics for Education Research and Policy Analysis  
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 Italian 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  
ITAL 0550  Gold, Wool and Stone: Painters and Bankers in Renaissance Tuscany (HIAA 0550)  
ITAL 0560  Constructing the Eternal City: Popes and Pilgrims in Renaissance Rome (HIAA 0560)  
ITAL 0600  Advanced Italian II  
ITAL 0750  Truth on Trial: Justice in Italy  
ITAL 0751  When Leaders Lie: Machiavelli in International Context  
ITAL 0950  Introduction to Italian Cinema: Italian Film and History  
ITAL 0951  The Grand Tour, or a Room with a View: Italy and the Imagination of Others  
ITAL 0975  Let's Eat, Italy: Italian History and Culture through Food  
ITAL 0981  When Leaders Lie: Machiavelli in International Context  
ITAL 0985  Visions of War: Representing Italian Modern Conflicts  

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
ITAL 1000A Luigi Pirandello: Masks and Society
ITAL 1000B Reading Recent Italian Fiction
ITAL 1000C Nord - Sud e Identità Italiana
ITAL 1000D Italian National Identity: Criticisms and Crises
ITAL 1000E Masterpieces of Italian Cinema - Capolavori del cinema italiano
ITAL 1000F 20th Century Italian Poetry
ITAL 1000G Italian Identity
ITAL 1000H Resounding Cinema
ITAL 1010 Dante in English Translation: Dante's World and the Invention of Modernity
ITAL 1020 Boccaccio's Decameron
ITAL 1029 World Cinema in a Global Context
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" Major Italian Writers and Filmmakers
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 (ReOT 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 Gold, Wool and Stone: Painters and Bankers in Renaissance Tuscany
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 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.

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

2) All students must take one full year of Hebrew (two of the ten required courses). Generally, this requirement will consist of two courses in Elementary Hebrew (HEBR 0100/HEBR 0200) or the equivalent as determined by a proficiency examination. Fulfillment of the Hebrew requirement through examination does not reduce the requirement to take ten courses for the concentration.

Students choosing to continue with Hebrew language study may apply up to two additional Hebrew language courses (HEBR 0300, HEBR 0400, or HEBR 0500) to the additional four required courses for the concentration.

3) Upon declaring a concentration in Judaic studies, each student must define his or her primary disciplinary track (History, Religious Studies, or Language/Literature). Concentrators will then be assigned a faculty mentor in that discipline (within the JS faculty) to help the students select courses and construct a coherent concentration plan.

4) Of the courses required in the Program in Judaic Studies, at least one should focus on the ancient period and one should focus on the modern period.

5) Each student, in discussion with his/her mentor, is required to designate an advanced course (1000 level) in his/her senior year either within the Judaic Studies program or in the corresponding disciplinary department as the capstone for his/her concentration. Within the frame of this capstone course, the concentrator will write a final paper on a topic in Judaic Studies that displays in an appropriate way the theoretical and interpretive issues of the concentration focus. If students opt to fulfill this requirement in a course outside the Program in Judaic Studies, the student must get permission in advance both from his/her mentor and from the professor of the course in question since the student's final project will address a Judaic studies topic or theme.

6) Double concentrators may count up to two courses that deal with Jewish history, culture, or practice that they have used to complete their concentration requirements in another department towards their concentration in Judaic Studies.

The following are required for the completion of each track:

**History or Religious Studies Track:**

- Students are expected to complete:
  1. HEBR 0100/HEBR 0200
  2. A minimum of four courses offered in the Program in Judaic Studies
     a. Students with a disciplinary focus in History should take at least one course focusing on the ancient period.
     b. Students with a disciplinary focus in Religious Studies should take one course focusing on the modern period.
  3. At least one course (but no more than two) should be taken outside the program in Judaic Studies in the department of disciplinary focus (preferably methods courses, such as in the History department or RELS 1000).
  4. Students in this track, in consultation with the concentration adviser and faculty mentor, may apply up to two additional Hebrew language courses (HEBR 0300, HEBR 0400, or HEBR 0500) to the additional four required courses for the concentration.

**Language/Literature Track:**

- Students are expected to complete:
  1. Five courses in Hebrew language (HEBR 0100 / HEBR 0200; HEBR 0300/HEBR 0400; HEBR 0500).
  2. “Issues in Israel in Hebrew” (HEBR 0600)
  3. One further course in Judaic Studies with a disciplinary focus upon Literature.
  4. Two additional courses in the disciplinary focus, at least one of which must be outside the Program in Judaic Studies in a department of shared disciplinary focus (e.g. English or Comparative Literature).
  5. Fulfillment of the Hebrew requirement through proficiency examination does not reduce the requirement to take ten courses for the concentration.
  6. Of the courses required in this track one should focus on the ancient period.
  7. A 1000-level Capstone

**Study Abroad:**

- Students who study at other institutions, either in the United States or abroad, may apply a maximum of four courses (two topical and two language courses) to the concentration.

**Honors Program**

Any student who wishes to engage more deeply in research related to Judaic Studies in any of its disciplines or branches is invited to consider writing an Honors Thesis.

**The Honors Thesis**

The goal of the thesis is to add to the existing scholarship in the field of Judaic Studies. It should be based on original research, involving the close reading of primary sources. The honors thesis is expected to present an argument based on the student’s own analysis and will engage an ongoing debate or discussion in the field, demonstrating an awareness of the major research done until now and clearly identifying its own contribution, however limited. Since it is the equivalent of two semester-long courses, it should be a substantial piece of work (typically between 35,000-55,000 words) containing a sustained and consistently supported argument. To be successful, the student needs to adopt both a critical research methodology and a logical research strategy, both of which should be discussed in the thesis itself. In addition to being assessed in all these aspects, the thesis will also be graded on its organization (the way in which it is structured into separate and clearly defined chapters to support the main argument) as well as the quality and precision of its writing.

Work that simply describes and summarizes its sources along with previous research is not acceptable. The goal here is original research and analysis.

**Entering the Program**

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
In order to be considered a candidate for Honors, students will be expected to have maintained an outstanding record (at least A in Judaic Studies courses. The Honors thesis, which fulfills the capstone requirement, will normally be written as a two-semester individual study project (numbered JUDS 1975/JUDS 1976) during the senior year.

A student contemplating a thesis should approach the faculty member with whom he or she hopes to work during the sixth semester. Once he or she has agreed to be the advisor (or helped find another member of the program better suited to the project), the student begins a process of consultation in order to determine a topic for the thesis, its sources, and proposed methodology. The contours of the project should also be laid out so that the student can commence productive research at the very beginning of the seventh semester. After this, a second reader for the thesis should be chosen by the advisor in consultation with the student. This may be a faculty member of the Judaic Studies program, one of the affiliate faculty, or, should the topic require it, a member of a different department. By the last week of the semester, the student should submit a thesis information form detailing the thesis topic with a short description of the proposed project, countersigned by advisor and second reader.

**Thesis Proposal**

During the first three weeks of the seventh semester, the student should work with the faculty advisor to write a thesis proposal. This should be a brief document (1,500-2,000 words) explaining the topic chosen for the thesis and its significance to the field of Judaic Studies, with reference to previous research on the subject. The proposal should detail the questions to be asked and the kind of argument that will be made as well as explaining the primary sources and research methodology that will be employed. The proposed research strategy (i.e. the stages by which research and writing will be done) and timetable should be appended together with a brief, one-page bibliography of primary sources and major research to be consulted.

Once the advisor is satisfied with the proposal, the student will be considered fully accepted into the Honors program and can enroll in the required independent study course by the last day to add a course in the fourth week of the term.

**Research and Writing**

It is the responsibility of the student to carry out the research program outlined in the proposal, as well as to write the thesis in an organized and timely fashion. During the process of research and writing, the advisor will continue to work closely with the student, providing guidance on research methods and suggesting further secondary reading. A regular meeting schedule will be set up to help the student meet the short- and long-term deadlines he or she has set. The advisor will also evaluate the progress of the research, providing any necessary direction and detailed feedback on written drafts.

The second reader will also be available to provide a measure of input and guidance during the process of research and writing. This may be particularly important in those areas where the primary advisor has limited expertise. The second reader may also be willing to help with giving feedback on various sections of the thesis drafts. All these roles should be determined by a process of consultation involving the advisor, the student, and the second reader himself/herself.

The final thesis should have a complete scientific apparatus - citations and a full bibliography - in a form determined by the advisor. It should be submitted no later than April 15 for May graduates and November 15 for December completers.

**Assessment**

The thesis will be assessed independently by the advisor and the second reader in written reports. In order to receive Honors, it should be deemed excellent according to the following standards:

- Is the scope of the work appropriate for an Honors thesis?
- To what extent does it qualify as original research?
- To what degree does it sustain an analytic argument throughout?
- To what degree is it rooted in an engagement with previous research?
- How well does it reflect critically on its method and process?
- To what extent is the organization adequate to the argument presented?
- How well is the thesis rooted in the common conventions of the field?
- To what degree is the writing clear, cogent, and free of errors of grammar, tone, and style?

The two reports will be circulated to all faculty members in the program, who will review them before making the final determination at the next faculty meeting whether the thesis merits Honors. The meeting must be held, the decision reached, and the candidate informed before the Registrar’s deadline for that semester.

**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.

**HEBR 0100/HEBR 0200**

**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 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 concentration).

**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 as 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:

- **LACA 0500** Around Latin America in 80 Days: An Historical and Cultural Journey
- **LACA 1504G** Latin American Environmental Humanities
- **LACA 1510I** Urban Latin America
- **LACA 1630** Engaged Humanities: Storytelling in the Americas
- **HISP 0730** Encounters: Latin America in Its Literature and Culture
- **HISP 1330Z** Tropical Fictions: Geography and Literature in Latin American Culture
- **HIST 0234** Modern Latin America
- **HIST 196EQ** Colonial Encounters and the Creation of Latin America
- **POL 1210** Latin American Politics

For up-to-date course information please visit Courses@Brown.edu (https://cabolin.edu).
POBS 0280  Mapping Food, Eating Meaning, Making Community: A Welcome to the Lusophone world

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 with the DUS by the beginning of junior year to discuss their work plan for their service component. Upon completion of the internship or service work, students fill and submit via ASK the Internship, Work or Volunteer Service 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.

The project may be completed for honors if the student is eligible (see Honors, below).

Students undertaking a capstone project are encouraged to enroll in LACA 1900. Alternatively, they may elect to enroll in one or two semesters of independent study (LACA 1990, LACA 1991) with their thesis/project advisor.

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:

- **LACA 1900**  Preparation for Honors and Capstone Projects on Latin American and Caribbean Topics
- **ETHN 1200D**  Latinx Literature
- **LACA 0500**  Around Latin America in 80 Days: An Historical and Cultural Journey
- **LACA 1504G**  Latin American Environmental Humanities
- **LACA 1630**  Engaged Humanities: Storytelling in the Americas
- **COLT 0710I**  New Worlds: Reading Spaces and Places in Colonial Latin America
- **HISP 0730**  Encounters: Latin America in Its Literature and Culture
- **HIST 0233**  Colonial Latin America
- **HIST 1977I**  Gender, Race, and Medicine in the Americas

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 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 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. Students who study abroad spring semester junior 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 October 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 on April 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).

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 May 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 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 in communicative and other social settings, and their cognitive and neural underpinnings. The linguistics 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), and semantics/pragmatics (the study of the meanings of words, sentences, and conversation). Beyond this, students may focus more heavily in one or more of these areas and/or explore related questions such as how children and adults learn language (language acquisition), how utterances are produced and understood in real time (psycholinguistics), or how speaking and understanding are anchored in underlying neural systems (neurolinguistics). Other areas such as historical linguistics, sociolinguistics, philosophy of language, and linguistic anthropology can also be pursued in conjunction with offerings in other departments.

A.B. Requirements (10 courses)

Prerequisite Course

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLPS 0300</td>
<td>Introduction to Linguistics (May be waived in special instances)</td>
</tr>
</tbody>
</table>

Required Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLPS 1310</td>
<td>Phonology</td>
</tr>
<tr>
<td>CLPS 1330</td>
<td>Introduction to Syntax</td>
</tr>
<tr>
<td>CLPS 1331</td>
<td>Linguistic Typology</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>
</tbody>
</table>

One course in Psycholinguistics to be drawn from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<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 1800</td>
<td>Language Processing</td>
</tr>
<tr>
<td>CLPS 1820</td>
<td>Language and the Brain</td>
</tr>
<tr>
<td>CLPS 1821</td>
<td>Neuroimaging and Language</td>
</tr>
<tr>
<td>CLPS 1890</td>
<td>Laboratory in Psycholinguistics</td>
</tr>
</tbody>
</table>

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 from 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 Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLPS 1320</td>
<td>The Production, Perception, and Analysis of Speech</td>
</tr>
<tr>
<td>CLPS 1332</td>
<td>Issues in Syntactic Theory</td>
</tr>
<tr>
<td>CLPS 1342</td>
<td>Compositional Semantics</td>
</tr>
<tr>
<td>CLPS 1360</td>
<td>Introduction to Corpus Linguistics</td>
</tr>
<tr>
<td>A course from the 1381 series (Topics in Phonetic &amp; Phonology)</td>
<td></td>
</tr>
<tr>
<td>A course from the 1383 series (Topics in Syntax and Semantics). For example:</td>
<td></td>
</tr>
<tr>
<td>CLPS 1383D</td>
<td>Topics in Syntax and Semantics</td>
</tr>
</tbody>
</table>

A course from the 1385 series (Topics in Language Acquisition) |
A course from the 1387 series (Topics in Neurolinguistics) |
A course from the 1389 series (Topics in Language Processing) |
CLPS 1390 Linguistic Field Methods |
CLPS 1821 Neuroimaging and Language |
CLPS 1880 series (Topics in Psycholinguistics) |
CLPS 1890 Laboratory in Psycholinguistics |

Other Courses Routinely Fulfilling Linguistics Concentration Requirements (in consultation with the Concentration Advisor):

- ANTH 0800 Sound and Symbols: Introduction to Linguistic Anthropology |
- ANTH 1800 Sociolinguistics, Discourse and Dialogue |
- CLPS 0050M Playing with Words: The Linguistic Principles Behind Word Games and Puzzles |
- CLPS 1365 Historical Linguistics |
- CSCI 1460 Computational Linguistics |
- EAST 1510 Chinese: A History of the Language |
- EGYT 2310 History of the Ancient Egyptian Language |
- SLAV 1300 Sociolinguistics (with Case Studies on the Former USSR and Eastern Europe) |
- PHIL 0540 Logic |
- PHIL 1760 Philosophy of Language |

Total Credits: 10

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). Normally a 3.5 grade-point average in the concentration is required for admission to the Honors program. Honors candidates should formalize their projects in consultation with their advisors by the end of September 6. 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

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
additional detail, though other pathways are possible, if approved by the concentration advisor. The core requirements are:

- One gateway course
- Four breadth 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 breadth 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

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLPS 0300</td>
<td>Introduction to Linguistics</td>
</tr>
</tbody>
</table>

#### At least one course in phonetics / phonology, such as:

- CLPS 1310 Phonology

#### At least one course in syntax, such as:

- CLPS 1330 Introduction to Syntax
- CLPS 1331 Linguistic Variation and Universals

#### At least one course in semantics / pragmatics, such as:

- CLPS 1341 Lexical Semantics
- CLPS 1342 Compositional Semantics
- CLPS 1370 Pragmatics

#### At least one course in psycholinguistics, such as:

- CLPS 0800 Language and the Mind
- CLPS 1650 Child Language Acquisition
- CLPS 1800 Language Processing
- CLPS 1890 Laboratory in Psycholinguistics

#### Three electives specifically in the focus area, such as:

- 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:

- CLPS 0950 Introduction to programming
- CLPS 2908 Multivariate Statistical Techniques
- APMA 1650 Statistical Inference I
- CSCI 0220 Introduction to Discrete Structures and Probability
- CSCI 1410 Artificial Intelligence
- CSCI 1420 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:

- 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)

#### One additional class in linguistics (related or unrelated to the focus area), such as:

- CLPS 1342 Compositional Semantics

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### One independent study / capstone requirement

- CLPS 1850 Language Processing in Humans and Machines

### Language, Mind and Brain Pathway

#### Gateway course

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLPS 0300</td>
<td>Introduction to Linguistics</td>
</tr>
</tbody>
</table>

#### At least one course in phonetics / phonology, such as:

- CLPS 1310 Phonology

#### At least one course in syntax, such as:

- CLPS 1330 Introduction to Syntax
- CLPS 1331 Linguistic Variation and Universals

#### At least one course in semantics / pragmatics, such as:

- CLPS 1341 Lexical Semantics
- CLPS 1342 Compositional Semantics
- CLPS 1370 Pragmatics

#### At least one course in psycholinguistics, such as:

- CLPS 0800 Language and the Mind
- CLPS 1650 Child Language Acquisition
- CLPS 1800 Language Processing
- CLPS 1890 Laboratory in Psycholinguistics

#### Three electives specifically in the focus area, such as:

- 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:

- CLPS 0200 Human Cognition
- CLPS 0400 Cognitive Neuroscience
- CLPS 0610 Children’s Thinking: The Nature of Cognitive Development
- CLPS 0900 Statistical Methods
- CLPS 1420 Cognitive Neuropsychology
- CLPS 1492 Computational Cognitive Neuroscience
- CLPS 1610 Cognitive Development
- CLPS 1620 Developmental Cognitive Neuroscience
- CLPS 1900 Research Methods And Design
- EDUC 1860 Social Context of Learning and Development
- NEUR 0650 Biology of Hearing
- NEUR 0680 Introduction to Computational Neuroscience
- NEUR 1030 Neural Systems
- PHIL 1770 Philosophy of Mind

#### Two additional courses outside the main focus that satisfy the Linguistics AB requirement, such as:

- 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)

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

At least one course in semantics / pragmatics, such as: 1
CLPS 1341 Lexical Semantics

At least one course in psycholinguistics, such as: 1
CLPS 0800 Language and the Mind

Three electives specifically in the focus area, such as: 3
CLPS 1331 Linguistic Variation and Universals
CLPS 1341 Lexical Semantics
CLPS 1342 Compositional Semantics
CLPS 1370 Pragmatics

Three independent capstone courses, such as: 3
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 on an approved topic (see Departmental regulations regarding Honors’ theses, which can be found at https://www.brown.edu/academics/cognitive-linguistic-psychological-sciences/honors) written under the direction of one or more faculty members, and read by a committee of at least two faculty members (one of whom may be from another department).

NOTE: Please refer to the Cognitive, Linguistic, and Psychological Sciences undergraduate Linguistics concentration page for updates not listed here.

Literary Arts

Brown’s Program in Literary Arts provides a home for innovative writers of fiction, poetry, playwriting, screenwriting, literary translation, electronic writing and mixed media. The concentration allows student writers to develop their skills in one or more genres while deepening their understanding of the craft of writing. Many courses in this concentration require a writing sample; students should consult a concentration advisor or the concentration website for strategies on getting into the appropriate course(s).

Admission to the honors program requires a majority of A grades in the concentration. The student’s work will culminate in an Honors thesis on an approved topic (see Departmental regulations regarding Honors’ theses, which can be found at https://www.brown.edu/academics/cognitive-linguistic-psychological-sciences/honors) written under the direction of one or more faculty members, and read by a committee of at least two faculty members (one of whom may be from another department).

NOTE: Please refer to the Cognitive, Linguistic, and Psychological Sciences undergraduate Linguistics concentration page for updates not listed here.

Or many others (see Linguistics AB for examples)
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 and 2000 level based on their interests. 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):

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 0180 &amp; MATH 0520</td>
<td>2</td>
</tr>
</tbody>
</table>

**Program:**

<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>2</td>
</tr>
<tr>
<td>MATH 1530</td>
<td>1</td>
</tr>
<tr>
<td>MATH 1540</td>
<td>1</td>
</tr>
<tr>
<td>MATH 1560</td>
<td>1</td>
</tr>
</tbody>
</table>

Total Credits: 14

### 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>2</td>
</tr>
<tr>
<td>MATH 1260</td>
<td>1</td>
</tr>
<tr>
<td>MATH 1410</td>
<td>1</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/ugrad/concentrations/professional.track.html) of the ScB program in Mathematics-Computer Science.

### Requirements for the Standard Track of the Sc.B. degree.

**Prerequisites:**

Multivariable calculus and linear algebra (choose one of the following sequences):

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 0180 &amp; MATH 0520</td>
<td>2</td>
</tr>
</tbody>
</table>

**Core Courses:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 1530</td>
<td>1</td>
</tr>
</tbody>
</table>

Select one of the following series:

- **Series A**
  - MATH 0180 & MATH 0520

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
### Mathematics-Economics Concentration

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.

#### Standard Mathematics-Economics Concentration

<table>
<thead>
<tr>
<th>Economics</th>
<th>Total Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 1130 Intermediate Microeconomics (Mathematical)</td>
<td>1</td>
</tr>
<tr>
<td>ECON 1210 Intermediate Macroeconomics</td>
<td>1</td>
</tr>
<tr>
<td>ECON 1630 Mathematical Econometrics I</td>
<td>1</td>
</tr>
<tr>
<td><strong>Two courses from the &quot;mathematical-economics&quot; group: 2</strong></td>
<td>2</td>
</tr>
<tr>
<td>ECON 1170 Welfare Economics and Social Choice Theory</td>
<td></td>
</tr>
<tr>
<td>ECON 1225 Advanced Macroeconomics: Monetary, Fiscal, and Stabilization Policies</td>
<td></td>
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<tr>
<td>ECON 1460 Industrial Organization</td>
<td></td>
</tr>
<tr>
<td>ECON 1470 Bargaining Theory and Applications</td>
<td></td>
</tr>
<tr>
<td>ECON 1490 Designing Internet Marketplaces</td>
<td></td>
</tr>
<tr>
<td>ECON 1640 Mathematical Econometrics II</td>
<td></td>
</tr>
<tr>
<td>ECON 1660 Big Data</td>
<td></td>
</tr>
<tr>
<td>ECON 1670 Advanced Topics in Econometrics</td>
<td></td>
</tr>
<tr>
<td>ECON 1750 Investments II</td>
<td></td>
</tr>
<tr>
<td>ECON 1820 Theory of Behavioral Economics</td>
<td></td>
</tr>
<tr>
<td>ECON 1850 Theory of Economic Growth</td>
<td></td>
</tr>
<tr>
<td>ECON 1860 The Theory of General Equilibrium</td>
<td></td>
</tr>
<tr>
<td>ECON 1870 Game Theory and Applications to Economics</td>
<td></td>
</tr>
<tr>
<td><strong>One course from the &quot;data methods&quot; group: 2</strong></td>
<td>1</td>
</tr>
<tr>
<td>ECON 1301 Economics of Education I</td>
<td></td>
</tr>
<tr>
<td>ECON 1305 Economics of Education: Research</td>
<td></td>
</tr>
<tr>
<td>ECON 1310 Labor Economics</td>
<td></td>
</tr>
<tr>
<td>ECON 1360 Health Economics</td>
<td></td>
</tr>
<tr>
<td>ECON 1410 Urban Economics</td>
<td></td>
</tr>
<tr>
<td>ECON 1480 Public Economics</td>
<td></td>
</tr>
<tr>
<td>ECON 1510 Economic Development</td>
<td></td>
</tr>
<tr>
<td>ECON 1530 Health, Hunger and the Household in Developing Countries</td>
<td></td>
</tr>
<tr>
<td>ECON 1629 Applied Research Methods for Economists</td>
<td></td>
</tr>
<tr>
<td>ECON 1640 Mathematical Econometrics II</td>
<td></td>
</tr>
<tr>
<td>ECON 1650 Financial Econometrics</td>
<td></td>
</tr>
</tbody>
</table>

Two additional 1000-level economics courses

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For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
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>RELS 0025</td>
<td>Wealth: Religious Approaches</td>
</tr>
<tr>
<td>JUDS 0050M</td>
<td>Difficult Relations? Judaism and Christianity from the Middle Ages until the Present</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 Philosopher's 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 Apha 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>Cities: Medieval Perspectives</td>
</tr>
<tr>
<td>RELS 0410</td>
<td>Christianity in Late Antiquity</td>
</tr>
<tr>
<td>RELS 0415</td>
<td>Ancient Christian Culture</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>HIST 0621B</td>
<td>The Search for King Arthur</td>
</tr>
<tr>
<td>RELS 0640</td>
<td>Dying To Be With God: Jihad, Past and Present</td>
</tr>
<tr>
<td>CLAS 0660</td>
<td>The World of Byzantium</td>
</tr>
</tbody>
</table>

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

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).

Late Antique Cultures Track

Requirements:

One course in Roman history: 1

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<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 (recommended)</td>
</tr>
</tbody>
</table>

One class in medieval history 1

One course at the advanced level (numbered at least 1000) in one approved language 1

Six other courses drawn from appropriate offerings and with the approval of the concentration advisor. These courses should support a concentrational area of special interest. 6

Total Credits 9

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:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLAS 0660</td>
<td>The World of Byzantium</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>CLAS 1750L</td>
<td>Erotic Desire in the Premodern Mediterranean</td>
</tr>
</tbody>
</table>

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>
</tr>
</thead>
<tbody>
<tr>
<td>HIST 0100B</td>
<td>The Philosophers' Stone: Alchemy From Antiquity to Harry Potter</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>HIST 0621B</td>
<td>The Search for King Arthur</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 1260D</td>
<td>Living Together: Muslims, Christians, and Jews in Medieval Iberia</td>
</tr>
<tr>
<td>HIST 1211</td>
<td>Crusaders and Cathedrals, Deviants and Dominance: Europe in the High Middle Ages</td>
</tr>
<tr>
<td>HIST 1963L</td>
<td>Barbarians, Byzantines, and Berbers: Early Medieval North Africa, AD 300-1050</td>
</tr>
<tr>
<td>HIST 1963Q</td>
<td>Sex, Power, and God: A Medieval Perspective</td>
</tr>
<tr>
<td>HIST 1963M</td>
<td>Charlemagne: Conquest, Empire, and the Making of the Middle Ages</td>
</tr>
<tr>
<td>HIST 1974M</td>
<td>Early Modern Globalization</td>
</tr>
<tr>
<td>HIST 2970A</td>
<td>New Perspectives on Medieval History</td>
</tr>
<tr>
<td>JUDS 0050M</td>
<td>Difficult Relations? Judaism and Christianity from the Middle Ages until the Present</td>
</tr>
<tr>
<td>JUDS 0681</td>
<td>Great Jewish Books</td>
</tr>
<tr>
<td>JUDS 1630</td>
<td>The Talmud</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 1120C</td>
<td>Survey of Late and Medieval Latin</td>
</tr>
<tr>
<td>LATN 1120D</td>
<td>Alcin</td>
</tr>
<tr>
<td>MDVL 0360</td>
<td>Cities: Medieval Perspectives</td>
</tr>
<tr>
<td>MDVL 0620</td>
<td>Muslims, Jews, and Christians in Medieval Iberia</td>
</tr>
<tr>
<td>MDVL 1970</td>
<td>Independent Study</td>
</tr>
<tr>
<td>MDVL 1990</td>
<td>Honors Thesis</td>
</tr>
<tr>
<td>PHIL 1100C</td>
<td>Medieval Arabic Philosophy</td>
</tr>
<tr>
<td>RELS 0025</td>
<td>Wealth: Religious Approaches</td>
</tr>
<tr>
<td>RELS 0110</td>
<td>Christians</td>
</tr>
<tr>
<td>RELS 0150</td>
<td>Islam Unveiled</td>
</tr>
<tr>
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<tr>
<td>RELS 0410</td>
<td>Christianity in Late Antiquity</td>
</tr>
<tr>
<td>RELS 0640</td>
<td>Dying To Be With God: Jihad, Past and Present</td>
</tr>
<tr>
<td>RELS 1300</td>
<td>Ancient Christianity and the Sensing Body</td>
</tr>
<tr>
<td>RELS 1520</td>
<td>Pilgrimage and Sacred Travel in the Lands of Islam</td>
</tr>
<tr>
<td>RELS 1530A</td>
<td>Methods and Problems in Islamic Studies: Narratives</td>
</tr>
<tr>
<td>RELS 1530D</td>
<td>Medieval Islamic Sectarianism</td>
</tr>
</tbody>
</table>

### 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.

### 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.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>MES 0100</td>
<td>The Middle East: Cultures &amp; Societies</td>
</tr>
<tr>
<td>MES 1968</td>
<td>Approaches to the Middle East (HIST 1968A)</td>
</tr>
</tbody>
</table>

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Electives: Students must take at least three elective courses chosen in consultation with the Director of Undergraduate Studies (DUS) from the list of courses offered within MES or that are cross- or X-listed by MES. 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:

<table>
<thead>
<tr>
<th>Humanities</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CLAS 0660</td>
<td>The World of Byzantium</td>
</tr>
<tr>
<td>HIAA 0041</td>
<td>The Architectures of Islam</td>
</tr>
<tr>
<td>PHIL 0203</td>
<td>Introduction to Islamic Philosophy</td>
</tr>
<tr>
<td>RELS 0088</td>
<td>Judaism, Christianity, and Islam</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Social Sciences:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTH 1150</td>
<td>Middle East in Anthropological Perspective</td>
</tr>
<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 Since 1850: Religion, Politics, Cultural Heritage</td>
</tr>
</tbody>
</table>

**Language Semesters:** Middle East Studies concentrators are expected to achieve 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 six semesters of Brown language coursework in one of these languages, or the equivalent through transfer or study abroad credits. Students who have reached proficiency in a Middle Eastern language but have not received six 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
- Or through taking courses in a second Middle Eastern language.

Must incorporate research in a Middle Eastern language.
- Must be taken for a letter grade.
- 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 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.
- 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.
- 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.

**Total Credits:**

For concentrators graduating before 2023, courses designated “Foundational Courses” under previous concentration requirements may be used to fulfill this requirement. Please meet with the MES Director of Undergraduate Studies (DUS) to discuss any such arrangements.

Previously HIST 1968 or HIST 1968A: Approaches to the Middle East. Any student who has taken HIST 1968 or HIST 1968A: Approaches to the Middle East, will have fulfilled this requirement.

Concentrators are encouraged to discuss options for fulfilling language requirements with the DUS.

Two semesters of Independent Study (MES 1970 & MES 1971) are required for honors and will raise the number of required courses to 13. One of these Independent Study courses should take the form of a thesis writing workshop supervised by the DUS or other designated MES faculty during the first semester of thesis writing. Students must declare their intention to write an honors thesis and submit a thesis prospectus (to include a thesis proposal, research plan, proposed thesis outline, initial literature review, and initial bibliography) by April 25th of their junior year (for May graduates) or November 20th of their junior year (for December graduates).
Modern Culture and Media

Modern Culture and Media (MCM) is an interdisciplinary concentration that explores the ties between media and broader cultural and social formations. We stress creative thinking and critical production: comparative analysis and theoretical reflection, as well as work that integrates practice and theory. We thus bring together aspects of modern culture that are normally separated by departmental structures such as film and media studies, fine art, literature, literary arts and philosophy. This concentration offers the student a range of possible specializations. A student might decide to focus on the critical study and production of a certain type or combination of media (print, photography, sound recording, cinema, video, television, and digital media); or they might focus on certain cultural, theoretical and/or social formations (for example, gender/sexuality in post-cold war television, postcolonial theory and film, the changing form of the novel, theories of subjectivity and ideology, video games and theories of representation). These paths are united by a commitment to critical thinking/practice: rather than reproducing conventions, MCM concentrators learn how conventions emerge, what work they do, and explore ways to change them.

Track I

Track I 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.

Track I consists of 11 courses.

Core courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Total 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>
<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>
</tbody>
</table>

Select two of the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCM 0150</td>
<td>Text/Media/Culture: Theories of Modern Culture and Media</td>
</tr>
<tr>
<td>MCM 0220</td>
<td>Print Cultures: Textuality and the History of Books</td>
</tr>
<tr>
<td>MCM 0230</td>
<td>Digital Media</td>
</tr>
</tbody>
</table>

Honors

To be eligible for honors, students will have earned an "A" in the majority of courses for the concentration. Honors students will be required to have at least six semesters of language study (Advanced), two semesters of which may be counted toward the elective requirement. Two semesters of Independent Study (MES 1970 and MES 1971) towards the Honors Thesis with the thesis advisor(s) are required. This is typically done during senior year and will raise the total number of required courses to 13.

Additional courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCM 0240</td>
<td>Television Studies</td>
</tr>
<tr>
<td>MCM 0250</td>
<td>Visuality and Visual Theories</td>
</tr>
<tr>
<td>MCM 0260</td>
<td>Cinematic Coding and Narrativity</td>
</tr>
<tr>
<td>MCM 1110</td>
<td>The Theory of the Sign</td>
</tr>
</tbody>
</table>

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 Track I 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 Track I 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.

Track II

Track II 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.

Track II consists of 11 courses:

Two core courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCM 0150</td>
<td>Text/Media/Culture: Theories of Modern Culture and Media</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 Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCM 0700A</td>
<td>Introduction to the Production Image</td>
</tr>
</tbody>
</table>
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 1000 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.

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, a student must fulfill the following criteria:

1. The student must have acquired a 3.5 cumulative grade point average overall.
2. The student must also have acquired a 3.5 cumulative grade point average in courses that count toward the concentration. ("S" with distinction” equates with “A”. Grades of “S” are not computed in the grade point average.)

Departmental Procedures:
The Department designates three kinds of projects leading to honors in music:

(a) Research project in history, theory, or ethnomusicology.
(b) Performance project accompanied by pertinent research of lesser scope than (a). (Scholarly program notes required)
(c) Composition/Computer Music project. (score required if applicable; recording and/or video documentation desired, short project description)

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:

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
1. An honors candidate must secure a faculty advisor and a second reader to serve as an honors committee for his or her project by the end of the year before graduation—typically, the end of the sixth semester. At the beginning of the penultimate semester the student will submit a proposal describing the project to the honors committee for approval. The proposal must receive committee approval and be given to Mary Rego 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.

2. 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. In any case, they will establish a series of regular meetings with their advisor. 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.

3. 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 forfeiture of honors by the candidate, though the student may complete the project as a capstone project.

4. 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.

5. The advisor will deliver a copy of the completed thesis to the Mary Rego by the middle of the eleventh week of the last semester so that it may be made available for review by the full faculty. (Online, or hard copy on reserve in the Music Library.)

6. 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.

7. Honors recipients will present their projects at a Department of Music Convocation held once annually at noon on the first day of final examination period in Semester II.

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 Elyse_Netto@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.

The concentration in neuroscience leads to an Sc.B. degree. The following background courses, or their equivalent, are required for the degree:

**Background Courses:**
- MATH 0090 Introductory Calculus, Part I
- MATH 0100 Introductory Calculus, Part II
- PHYS 0030 Basic Physics A
- PHYS 0040 Basic Physics B
- BIOL 0200 The Foundation of Living Systems
- CHEM 0330 Equilibrium, Rate, and Structure
- CHEM 0350 Organic Chemistry

**Core Concentration Courses:**
- NEUR 0010 The Brain: An Introduction to Neuroscience
- NEUR 1020 Principles of Neurobiology
- NEUR 1030 Neural Systems

**One critical reading course:**
- NEUR 1440 Mechanisms and Meaning of Neural Dynamics
- NEUR 1560 Developmental Neurobiology
- NEUR 1970 Independent Study
- CLPS 1760 The Moral Brain
- PHP 1890 The Craving Mind
- 1930/40 Topics in Neuroscience

**One statistics course:**
- PHP 1501 Essentials of Data Analysis
- PHP 1510 Principles of Biostatistics and Data Analysis
- PHP 2510 Principles of Biostatistics and Data Analysis

**One lab method:**
- APMA 0650 Essential Statistics
- APMA 1650 Statistical Inference I
- CLPS 0900 Statistical Methods
- SOC 1100 Introductory Statistics for Social Research
- EDUC 1110 Introductory Statistics for Education Research and Policy Analysis
- BIOL 0495 Statistical Analysis of Biological Data

**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:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEUR 0650</td>
<td>Biology of Hearing</td>
<td>1</td>
</tr>
<tr>
<td>NEUR 0680</td>
<td>Introduction to Computational Neuroscience</td>
<td>1</td>
</tr>
<tr>
<td>NEUR 1040</td>
<td>Introduction to Neurogenetics</td>
<td>1</td>
</tr>
<tr>
<td>NEUR 1440</td>
<td>Mechanisms and Meaning of Neural Dynamics</td>
<td>1</td>
</tr>
<tr>
<td>NEUR 1540</td>
<td>Neurobiology of Learning and Memory</td>
<td>1</td>
</tr>
<tr>
<td>NEUR 1560</td>
<td>Developmental Neurobiology</td>
<td>1</td>
</tr>
<tr>
<td>NEUR 1600</td>
<td>Experimental Neurobiology</td>
<td>1</td>
</tr>
<tr>
<td>NEUR 1630</td>
<td>Open-Source Big Data Neuroscience Lab</td>
<td>1</td>
</tr>
<tr>
<td>NEUR 1660</td>
<td>Experimental Neurobiology</td>
<td>1</td>
</tr>
<tr>
<td>NEUR 1630</td>
<td>Open-Source Big Data Neuroscience Lab</td>
<td>1</td>
</tr>
<tr>
<td>NEUR 1650</td>
<td>Structure of the Nervous System</td>
<td>1</td>
</tr>
<tr>
<td>NEUR 1660</td>
<td>Neural Computation in Learning and Decision-Making</td>
<td>1</td>
</tr>
<tr>
<td>NEUR 1670</td>
<td>Neuropharmacology and Synaptic Transmission</td>
<td>1</td>
</tr>
<tr>
<td>NEUR 1740</td>
<td>The Diseased Brain: Mechanisms of Neurological and Psychiatric Disorders</td>
<td>1</td>
</tr>
<tr>
<td>NEUR 1970</td>
<td>Independent Study</td>
<td>1</td>
</tr>
<tr>
<td>NEUR 2110</td>
<td>Statistical Neuroscience</td>
<td>1</td>
</tr>
</tbody>
</table>

All NEUR 1930/1940 Seminar Course

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLPS 0120</td>
<td>Introduction to Sleep</td>
<td>1</td>
</tr>
<tr>
<td>CLPS 1150</td>
<td>Memory and the Brain</td>
<td>1</td>
</tr>
<tr>
<td>CLPS 1193</td>
<td>Laboratory in Genes and Behavior</td>
<td>1</td>
</tr>
<tr>
<td>CLPS 1400</td>
<td>The Neural Bases of Cognition</td>
<td>1</td>
</tr>
<tr>
<td>CLPS 1478</td>
<td>Translational Models of Neuropsychiatric Disorder</td>
<td>1</td>
</tr>
<tr>
<td>CLPS 1480C</td>
<td>Cognitive Control Functions of the Prefrontal Cortex</td>
<td>1</td>
</tr>
<tr>
<td>CLPS 1490</td>
<td>Functional Magnetic Resonance Imaging: Theory and Practice</td>
<td>1</td>
</tr>
<tr>
<td>CLPS 1492</td>
<td>Computational Cognitive Neuroscience</td>
<td>1</td>
</tr>
<tr>
<td>CLPS 1495</td>
<td>Affective Neuroscience</td>
<td>1</td>
</tr>
<tr>
<td>CLPS 1561</td>
<td>The Nature of Attention</td>
<td>1</td>
</tr>
<tr>
<td>CLPS 1580E</td>
<td>Perception, Attention, and Consciousness</td>
<td>1</td>
</tr>
<tr>
<td>CLPS 1620</td>
<td>Developmental Cognitive Neuroscience</td>
<td>1</td>
</tr>
<tr>
<td>CLPS 1760</td>
<td>The Moral Brain</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 1100</td>
<td>Cell Physiology and Biophysics</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 1100</td>
<td>Cell Physiology and Biophysics</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 1260</td>
<td>Physiological Pharmacology</td>
<td>1</td>
</tr>
<tr>
<td>ENGN 1220</td>
<td>Neuroengineering</td>
<td>1</td>
</tr>
<tr>
<td>PHP 1890</td>
<td>The Craving Mind</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 1545</td>
<td>Human Genetics and Genomics</td>
<td>1</td>
</tr>
<tr>
<td>COST 1020</td>
<td>Cognitive Neuroscience of Meditation</td>
<td>1</td>
</tr>
</tbody>
</table>

Total Credits: 53

1 Independent study and honors research projects are encouraged.

**Philosophy**

The Philosophy concentration offers courses covering subjects from the philosophy of religion to the philosophies of science and literature. It also provides survey courses on various periods in the history of philosophy. Concentrators can expect to strengthen their knowledge of and skills in ancient philosophy, early modern philosophy, logic, epistemology and metaphysics. Students are asked to identify an area of specialization. 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 0350, and at least three must be at or above PHIL 0990.

**A. Five Area Requirements:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHIL 0350</td>
<td>Ancient Philosophy</td>
<td>1</td>
</tr>
<tr>
<td>PHIL 1250</td>
<td>Aristotle</td>
<td>1</td>
</tr>
<tr>
<td>PHIL 1260</td>
<td>Plato</td>
<td>1</td>
</tr>
<tr>
<td>PHIL 1310</td>
<td>Myth and the Origins of Science</td>
<td>1</td>
</tr>
<tr>
<td>PHIL 0990</td>
<td>Early Modern Philosophy</td>
<td>1</td>
</tr>
<tr>
<td>PHIL 1700</td>
<td>Locke, Berkeley, Hume and Others</td>
<td>1</td>
</tr>
<tr>
<td>PHIL 1710</td>
<td>17th Century Continental Rationalism</td>
<td>1</td>
</tr>
<tr>
<td>PHIL 1720</td>
<td>Kant: The Critique of Pure Reason</td>
<td>1</td>
</tr>
<tr>
<td>PHIL 1660</td>
<td>Metaphysics</td>
<td>1</td>
</tr>
<tr>
<td>PHIL 1750</td>
<td>Epistemology</td>
<td>1</td>
</tr>
<tr>
<td>PHIL 1760</td>
<td>Philosophy of Language</td>
<td>1</td>
</tr>
<tr>
<td>PHIL 1770</td>
<td>Philosophy of Mind</td>
<td>1</td>
</tr>
<tr>
<td>PHIL 0990</td>
<td>Ethics or Political Philosophy, e.g.</td>
<td>1</td>
</tr>
<tr>
<td>PHIL 0500</td>
<td>Moral Philosophy</td>
<td>1</td>
</tr>
<tr>
<td>PHIL 0560</td>
<td>Political Philosophy</td>
<td>1</td>
</tr>
<tr>
<td>PHIL 0880</td>
<td>Ethical Themes in the Contemporary American Short Story</td>
<td>1</td>
</tr>
<tr>
<td>PHIL 1400</td>
<td>Ethics in the Novel</td>
<td>1</td>
</tr>
<tr>
<td>PHIL 1640</td>
<td>The Nature of Morality</td>
<td>1</td>
</tr>
<tr>
<td>PHIL 1650</td>
<td>Moral Theories</td>
<td>1</td>
</tr>
<tr>
<td>PHIL 0990</td>
<td>Logic</td>
<td>1</td>
</tr>
<tr>
<td>PHIL 1630</td>
<td>Mathematical Logic</td>
<td>1</td>
</tr>
<tr>
<td>PHIL 1880</td>
<td>Advanced Deductive Logic</td>
<td>1</td>
</tr>
</tbody>
</table>

**B. Five further courses, chosen to include an item under each of the following three headings:**

1) One seminar: a course from the PHIL 0990 series or a seminar at the 2000-level
2) Either a Specialization: Three related courses from one single area of philosophy: e.g., logic and language; philosophy of science; epistemology; philosophy of mind; moral philosophy; political philosophy; ancient philosophy, etc. See Notes below for further details.
3) Capstone: One of the following four options
   a. Reading Course (PHIL 1990): a reading course for one semester involving one professor and one student, leading to the preparation of a substantial research paper on a particular topic. The Reading Course may accompany a 1000-level course being taken concurrently. In this case, the 1000-level course would provide a general overview of the topic and the reading course would consist of a deeper foray into the topic.
   b. Senior Seminar (PHIL 0990 or 0991): Seminars aimed primarily at advanced undergraduates, on varying topics each year, requiring the completion of substantial research and writing.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
c. Graduate Seminar (PHIL 2000-level): seminars mainly aimed at graduate students, but also open to advanced undergraduates, requiring the completion of substantial research and writing. (A 0990- or 2000-level seminar taken as a Capstone also fulfills requirement (B, 1) for a seminar).

d. Honors Thesis: a piece of work expected to be more substantial than the above-mentioned research papers, typically researched and written over the course of the entire senior year (with enrollment in PHIL 1995 Senior Thesis for two semesters) under the supervision of a thesis advisor (possibly, though not necessarily, the specialization advisor). See also Honors Requirements below.

Total Credits 10

Notes:

• Up to two courses from departments other than the Philosophy department may be included among the ten courses required for the Concentration; no more than one of these two outside courses may count toward the three specialization requirements.

• One course, but not more, may fulfill both an Area Requirement and a Specialization requirement.

• The specialization and the courses that will fulfill it are standardly declared at some point in the course of the Junior year. Those making a Concentration Declaration at an earlier time (e.g. at the end of their Sophomore year) may make a provisional choice of courses which can be revised at a later date with the approval of the department’s DUS (Director of Undergraduate Studies).

Honors Requirements:

• Philosophy GPA must be greater than 3.5. (This refers to the GPA at the beginning of the senior year in all philosophy courses, and including at least six courses, five of which were taken for a letter grade).

• Thesis: for further details, see “Senior Year Options” and “Thesis” on the Departmental website.

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:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 0070 &amp; PHYS 0160</td>
<td>Analytical Mechanics and Introduction to Relativity, Waves and Quantum Physics</td>
</tr>
<tr>
<td>PHYS 0030 &amp; PHYS 0040</td>
<td>Basic Physics A and Basic Physics B</td>
</tr>
<tr>
<td>PHYS 0050 &amp; PHYS 0060</td>
<td>Foundations of Mechanics and 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 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>
</tbody>
</table>

One additional 1000-level course or a mathematics course beyond the introductory level.

Total Credits 8

Standard program for the Sc.B. degree

Prerequisites:

Select one of the following series:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 0070 &amp; PHYS 0160</td>
<td>Analytical Mechanics and Introduction to Relativity, Waves and Quantum Physics</td>
</tr>
<tr>
<td>PHYS 0050 &amp; PHYS 0060</td>
<td>Foundations of Mechanics and Foundations of Electromagnetism and Modern Physics</td>
</tr>
</tbody>
</table>

Select one of the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 0190</td>
<td>Advanced Placement Calculus (Physics/Engineering)</td>
</tr>
<tr>
<td>Or MATH 0090, MATH 0100</td>
<td></td>
</tr>
</tbody>
</table>

Program:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</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 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>
<tr>
<td>PHYS 1990</td>
<td>Senior Conference Course</td>
</tr>
</tbody>
</table>

One additional 1000 or 2000 level Physics course or upper level course in related fields of science chosen by the student with agreement of his or her advisor.

Four Mathematics courses beyond MATH 0190 or 0090, 0100 including choices from Applied Mathematics

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.

Honors

Candidates for honors in physics will be expected to pursue a more rigorous and extensive program than those merely concentrating in the subject. In addition they will be required to begin an honors thesis during the seventh semester and to complete it (as part of PHYS 1990) during the eighth semester. Honors candidates are also expected to take a special oral examination on the thesis at the end of the eighth semester. Further details about the program may be obtained from the chair of the department or the departmental honors advisor.

Astrophysics Track for the Sc.B. degree

Prerequisites:

Select one of the following Series:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 0070 &amp; PHYS 0160</td>
<td>Analytical Mechanics and Introduction to Relativity, Waves and Quantum Physics</td>
</tr>
<tr>
<td>PHYS 0050 &amp; PHYS 0060</td>
<td>Foundations of Mechanics and Foundations of Electromagnetism and Modern Physics</td>
</tr>
<tr>
<td>PHYS 0270</td>
<td>Astronomy and Astrophysics</td>
</tr>
</tbody>
</table>

Select one of the following Series:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 0170 &amp; MATH 0180</td>
<td>Advanced Placement Calculus and Intermediate Calculus</td>
</tr>
</tbody>
</table>

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

Program:

MATH 0520 Linear Algebra
or MATH 0540 Honors Linear Algebra
or PHYS 0720 Methods of Mathematical Physics

Select one of the following Math courses:

- APMA 0330 Methods of Applied Mathematics I, II
- APMA 0340 Methods of Applied Mathematics I, II
- APMA 0350 Applied Ordinary Differential Equations
- APMA 0360 Applied Partial Differential Equations I
- MATH 1110 Ordinary Differential Equations
- MATH 1120 Partial Differential Equations

PHYS 0500 Advanced Classical Mechanics
or PHYS 0560 Experiments in Modern Physics
or PHYS 1410 Quantum Mechanics A
or PHYS 1530 Thermodynamics and Statistical Mechanics

Three of the following:

- PHYS 1100 Introduction to General Relativity
- PHYS 1250 Stellar Structure and the Interstellar Medium
- PHYS 1270 Extragalactic Astronomy and High-Energy Astrophysics
- PHYS 1280 Introduction to Cosmology

Two additional 1000- or 2000-level courses in physics or a related field which are not listed as requirements.

PHYS 1990 Senior Conference Course

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

PHYS 0070 Analytical Mechanics
or PHYS 0050 Foundations of Mechanics
or ENGN 0040 Dynamics and Vibrations
PHYS 0160 Introduction to Relativity, Waves and Quantum Physics
or PHYS 0060 Foundations of Electromagnetism and Modern Physics

PHYS 0470 Electricity and Magnetism
PHYS 0500 Advanced Classical Mechanics
PHYS 1410 Quantum Mechanics A
PHYS 1530 Thermodynamics and Statistical Mechanics

Select one of the following Series: 1-2

**Series A**

- PHYS 0720 Methods of Mathematical Physics

**Series B**

Select one of the following:

- APMA 0330 Methods of Applied Mathematics I, II
- APMA 0350 Applied Ordinary Differential Equations
- MATH 1110 Ordinary Differential Equations

And select one of the following:

- MATH 0180 Intermediate Calculus
- MATH 0200 Intermediate Calculus (Physics/Engineering)
- MATH 0350 Honors Calculus
- MATH 0520 Linear Algebra
- MATH 0540 Honors Linear Algebra

Basic Biology and Chemistry

BIOL 0070 The Foundation of Living Systems (or placement out of BIOL 0200)
BIOL 0500 Cell and Molecular Biology
CHEM 0330 Equilibrium, Rate, and Structure

Advanced Biophysical Topics and Techniques

PHYS 1610 Biological Physics
PHYS 1990 Senior Conference Course

Elective Courses (four chosen from the following list, with at least two 1000-level courses, or additional courses approved by the concentration advisor:

- APMA 0360 Applied Partial Differential Equations I
- APMA 0410 Mathematical Methods in the Brain Sciences
- APMA 0650 Essential Statistics
- APMA 1070 Quantitative Models of Biological Systems
- APMA 1080 Inference in Genomics and Molecular Biology
- BIOL 0280 Biochemistry
- BIOL 0470 Genetics
- BIOL 1050 Biology of the Eukaryotic Cell
- BIOL 1200 Protein Biophysics and Structure
- BIOL 1270 Advanced Biochemistry
- BIOL 1870 Techniques and Clinical Applications in Pathobiology
- CHEM 0350 Organic Chemistry
- CHEM 0360 Organic Chemistry
- MATH 0090 Introductory Calculus, Part I
- MATH 0170 Advanced Placement Calculus
- MATH 0190 Advanced Placement Calculus (Physics/Engineering)
- MATH 1610 Probability
- MATH 1620 Mathematical Statistics
- PHYS 0560 Experiments in Modern Physics
- PHYS 1510 Advanced Electromagnetic Theory
- PHYS 1560 Modern Physics Laboratory
- PHYS 2620F Selected Topics in Molecular Biophysics
- PHYS 1990 Senior Conference Course

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 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.

Mathematical Physics Track for the A.B. degree

Prerequisites:

- MATH 0090 Introductory Calculus, Part I
- MATH 0100 Introductory Calculus, Part II
- MATH 0190 Advanced Placement Calculus (Physics/Engineering)

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 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.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Mathematics Courses 1

MATH 0180 Intermediate Calculus 1
or MATH 0200 Intermediate Calculus (Physics/Engineering)
or MATH 0350 Honors Calculus
MATH 0520 Linear Algebra 1
or MATH 0540 Honors Linear Algebra
MATH 1110 Ordinary Differential Equations 1

Select at least one of the following:

- MATH 1060 Differential Geometry
- MATH 1120 Partial Differential Equations
- MATH 1610 Probability

Physics Courses 1

PHYS 0060 Foundations of Electromagnetism and Modern Physics 1
or PHYS 0160 Introduction to Relativity, Waves and Quantum Physics

PHYS 0470 Electricity and Magnetism 1
PHYS 0500 Advanced Classical Mechanics 1
PHYS 0560 Experiments in Modern Physics 1

Select at least two of the following:

- 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

Total Credits 12

1 Concentrators are required to take at least one course in mathematics and one in physics in each of their last two semesters.

Mathematical Physics Track for the Sc.B. degree

Prerequisites:

Select one of the following series:

- PHYS 0070 & PHYS 0160 Analytical Mechanics and Introduction to Relativity, Waves and Quantum Physics
- PHYS 0050 & PHYS 0060 Foundations of Mechanics and Foundations of Electromagnetism and Modern Physics

Select one of the following:

- MATH 0190 Advanced Placement Calculus (Physics/Engineering)
- MATH 0090 & MATH 0100 Introductory Calculus, Part I and Introductory Calculus, Part II

Required courses:

- PHYS 0470 Electricity and Magnetism 1
- PHYS 0500 Advanced Classical Mechanics 1
- PHYS 0560 Experiments in Modern Physics 1
- PHYS 1410 Quantum Mechanics A 1
- PHYS 1530 Thermodynamics and Statistical Mechanics 1
- MATH 0180 & MATH 0200 Intermediate Calculus and Intermediate Calculus (Physics/Engineering) 1-2
- or MATH 0350 Honors Calculus
- MATH 0520 Linear Algebra 1
- or MATH 0540 Honors Linear Algebra
- or PHYS 0720 Methods of Mathematical Physics
- MATH 1260 Complex Analysis 1

Four additional 1000 or 2000 level Physics courses 4
Two additional 1000 or 2000 level Math courses 2
PHYS 1990 Senior Conference Course 1 1

Total Credits 18-20

1 A senior thesis is required. This is to be prepared in connection with under 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 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 subjacent 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 0060. 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.

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
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: 1
- 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 Science, Perception and Reality
- PHIL 0100 Critical Reasoning
- PHIL 0060 Modern Science and Human Values
- PHIL 0540 Logic
Select one of the following courses in Early Modern Philosophy:
- PHIL 0360 Early Modern Philosophy
- PHIL 1700 Locke, Berkeley, Hume and Others
- PHIL 1710 17th Century Continental Rationalism
- PHIL 1720 Kant: The Critique of Pure Reason
Select two of the following courses in Epistemology, Metaphysics and Philosophy of Science:
- PHIL 1590 Philosophy of Science
- PHIL 1620 Philosophy of Quantum Mechanics
- PHIL 1660 Metaphysics
- PHIL 1670 Time
- PHIL 1750 Epistemology

History Courses
Select one of the following courses in History of Science: 1
- 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 Intermediate Calculus
- MATH 0200 Intermediate Calculus (Physics/Engineering)
- MATH 0350 Honors Calculus

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

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 to connect theory and practice and gain hands-on experience working with community partners.

The undergraduate concentration is organized around three broad tracks, or programs of study: American politics, international and comparative politics, and political theory. Twelve courses are required overall: ten within the Department of Political Science and two from areas outside the department related to your chosen track. Thirteen courses are required if the methods requirement is fulfilled with a course outside the department.

Requirements:

Two introductory courses: 2
For the American politics track, the following two introductory courses are required:
- POLS 0010 Introduction to the American Political Process
- and -
- POLS 0010 Introduction to Political Thought or POLS 0200 Introduction to Comparative Politics or POLS 0400 Introduction to International Politics

For the international and comparative politics track: the following two introductory courses are required:
- POLS 0200 Introduction to Comparative Politics or POLS 0400 Introduction to International Politics
- and -
- POLS 0010 Introduction to the American Political Process

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Mapping Portuguese-Speaking Cultures: 
Political Research Methods

The methods requirement is required prior to applying to the Honors program in language and literature and another that is interdisciplinary.

Students wishing to undertake the honors program need to complete the same requirements as shown for the concentration. 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 Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>POBS 0610</td>
<td>Mapping Portuguese-Speaking Cultures: Brazil</td>
<td>1</td>
</tr>
<tr>
<td>POBS 0620</td>
<td>Mapping Portuguese-Speaking Cultures: Portugal and Africa</td>
<td>1</td>
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<tr>
<td>POBS 1030</td>
<td>Portuguese Stylistics: Advanced Language Study and Creative Writing</td>
<td>1</td>
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For the Political Theory track, the following two introductory courses are required:

POLS 0110 Introduction to Political Thought
- and -
POLS 0010 Introduction to the American Political Process
or POLS 0200 Introduction to Comparative Politics
or POLS 0400 Introduction to International Politics

One course in the American politics subfield | 1
One course in the political theory subfield | 1
Two courses in the international and comparative politics subfield | 2
Three upper-level courses in the chosen subfield | 3
One methods course from Political Science | 1
POBS 0500 Foundations of Political Analysis
POBS 1600 Political Research Methods

One research seminar from the POLS 1820, 1821, 1822, 1823 or 1824 offerings that is track related | 1
Two upper-level courses from outside the department related to the specialized track, chosen with the approval of the concentration advisor | 2
A comparable course from an outside department (APMA 0650, ANTH 1940, CLPS 0900, ECON 1620, ECON 1630, EDUC 1100, EDUC 1110, EEPS 1320, PHP 1501, SOC 1100 or SOC 1120 may also be used). If the methods requirement is fulfilled by an outside department course, it will not count as one of the 12 required courses. | 1
Appropriate 1000-level courses offered in (but not limited to) Africana Studies, American Studies, Anthropology, Classics, Economics, History, International Relations, Philosophy, Public Policy, Religious Studies, Sociology or Urban Studies may apply. The concentration advisor may approve a course from another department if it clearly meets the intent of the outside course requirement. | 2

To obtain an advisor contact the Concentration Coordinator Patti Gardner.

Honors

Students wishing to undertake the honors program need to complete the same requirements as shown for the concentration. 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.

Four 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 | One or both of these courses may be replaced by more advanced literature courses conducted in Portuguese.
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 instructor 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 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 pursuing the Bachelor of Arts or Bachelor of Science 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. Students pursuing a Bachelor of Science must complete both a research methods and a laboratory course and four additional science courses related to the same intellectual theme as the elective courses. 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 most of the laboratory courses, so concentrators should plan to take this course by their fourth semester. Students may substitute APMA 1660, PHP 1501, or SOC 1100 with the approval of a concentration advisor. 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 CLPS 1901)
**Statistical Methods**

**Animal Behavior**

**Personality**

**Brain Damage and the Mind**

**Children's Thinking: The Nature of**

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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 Effective Beginning Class of 2021

1. Core Courses: (non-substitutable; 4 required for honors, 5 for non-honors)
   - **PHP 0310** Health Care in the United States 1
     This course is best taken as a freshman or sophomore.
   - **PHP 0320** Introduction to Public Health 1
     This course is a prerequisite to the Fundamentals of Epidemiology (PHP 0850) and is best taken as a freshman or sophomore.
   - **PHP 0850** Fundamentals of Epidemiology 1
     This course is best taken by end of junior year before PHP 1910, Senior Seminar.
   - **PHP 1901** Essentials of Data Analysis 1
     This course is best taken by end of junior year before PHP 1910, Senior Seminar.
   - **PHP 1910** Public Health Senior Seminar 1
     This course is required for all non-honors seniors. PHP 0320 and PHP 0310 are required prerequisites.

2. Environmental Health and Policy (Select one of the following): 1
   - **PHP 1101** World of Food: Personal to Global Perspectives on Nutrition, Agriculture and Policy
   - **PHP 1700** Current Topics in Environmental Health
   - **PHP 1710** Climate Change and Human Health
   - **AMST 1700I** Community Engagement with Health and the Environment
   - **BIOL 1820** Environmental Health and Disease
   - **ENVS 0705** Equity and the Environment: Movements, Scholarship, Solutions
   - **ENVS 1580** Environmental Stewardship and Resilience in Urban Systems

3. Health, Health Care Systems and Policy (Select one of the following): 1
   - **PHP 0650** From Manufacturer to Patient: Why is the Cost of Prescription Drugs So Darn High?
   - **PHP 1070** The Burden of Disease in Developing Countries
   - **PHP 1100** Comparative Health Care Systems
   - **PHP 1500** Global Health Nutrition
   - **PHP 1520** Emergency Medical Systems: An Anatomy of Critical Performance
   - **PHP 1530** Case Studies in Public Health: The Role of Governments, Communities and Professions
   - **PHP 1802S** Human Security and Humanitarian Response: Increasing Effectiveness and Accountability
   - **PHP 1820** Designing Education for Better Prisoner and Community Health
   - **ECON 1360** Health Economics
   - **IAPA 1804E** Health Policy Challenges

4. Social and Behavioral Science for Prevention (Select one of the following): 1
   - **PHP 1010** Doctors and Patients: Clinical Communication in Medicine
   - **PHP 1400** HIV/AIDS in Africa: A Multidisciplinary Approach to Support HIV/AIDS Care and Treatment Programs
   - **PHP 1540** Alcohol Use and Misuse
   - **PHP 1600** Obesity in the 21st Century: Causes, Consequences and Countermeasures
   - **PHP 1610** Tobacco, Disease and the Industry: cigs, e-cigs and more
   - **PHP 1680U** Intersectionality and Health Inequities
   - **PHP 1880** Meditation, Mindfulness and Health
   - **PHP 1885** Measuring Mindfulness
   - **PHP 1890** The Craving Mind
   - **PHP 1920** Social Determinants of Health
   - **PHP 2355** Designing and Evaluating Public Health Interventions
   - **POLS 1740** Politics of Food

5. Biology (Select one of the following): 1
   Note that AP Biology does not exempt students from this requirement. Most students will likely take BIOL 0200. Students who place out of BIOL 0200 with AP credit can choose one of the other four (4) courses.
   - **BIOL 0200** The Foundation of Living Systems
   - **BIOL 0470** Genetics
   - **BIOL 0510** Introductory Microbiology
   - **BIOL 0530** Principles of Immunology
   - **BIOL 0800** Principles of Physiology

6. Humanities/Fine Arts/Humanistic Social Sciences Course for Public Health (Select one of the following): 1
   - **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
   - **AMST 1600C** The Anti-Trafficking Savior Complex: Saints, Sinners, and Modern-Day Slavery
   - **AMST 1601** Health and Healing in American History
   - **COST 0100** Introduction to Contemplative Studies
   - **ENGL 1030C** Writing Science
   - **ETHN 1750B** Treaty Rights and Food Fights: Eating Local in Indian Country
   - **ETHN 1890J** Native American Environmental Health Movements
   - **GNSS 0090C** Reproductive Health: Science and Politics
   - **GNSS 0120** Introduction to Gender and Sexuality Studies
   - **GNSS 1961H** Literary Imaginations of the Law: Human Rights and Literature
   - **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

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
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 1080  Humanitarianism and Conflict in Africa

HIST 1830M  From Medieval Bedlam to Prozac Nation: Intimate Histories of Psychiatry and Self in the Americas

HIST 1960Q  Medicine and Public Health in Africa

HIST 1972H  U.S. Human Rights in a Global Age

HMAN 1970G  International Perspectives on NGOs, Public Health, and Health Care Inequalities

LACA 1503H  Sexuality, Human Rights and Health: Latin American Perspective and Brazilian Experiences

PHIL 0060  Modern Science and Human Values

PHIL 0250  Philosophy of Social Science

PHIL 0390  Global Justice

POBS 1501E  Histories of Global Health from Lusophone Africa: Biomedical Actions in Angola, Mozambique, Guinea

TAPS 1281W  Artists and Scientists as Partners

7. General Electives (Class of 2021: Select two)

General electives may be selected from: A. All PHP and BIOL course offerings; B. the approved content area electives (#2, #3, #4, and #5) listed above; or C. the approved general electives listed below. No more than one (1) BIOL course can count as a general elective.

PHP 0030  Health of Hispaniola

PHP 0050  Pain and the Human Condition: Exploring the Science, Medicine, and Culture of Pain

PHP 1400  HIV/AIDS in Africa: A Multidisciplinary Approach to Support HIV/AIDS Care and Treatment Programs

PHP 1680I  Pathology to Power: Disability, Health and Community

AFRI 1060W  Policy, Culture and Discourse that Shape Health and Access to Healthcare

AMST 1601  Health and Healing in American History

AMST 1906P  Food in American Society and Culture

ANTH 1610  Anthropology and Global Social Problems: Environment, Development, and Governance

ANTH 1906P  Anthropology and Global Social Problems: Environment, Development, and Governance

ANTH 0300  Culture and Health

ANTH 1020  AIDS in Global Perspective

ANTH 1242  Bioethics and Culture

ANTH 1300  Anthropology of Addictions and Recovery

ANTH 1310  International Health: Anthropological Perspectives

BIOL 0030  Principles of Nutrition (Human Biology/Physiology course)

BIOL 0040  Nutrition for Fitness and Physical Activity

BIOL 0140K  Conservation Medicine

BIOL 0180  The Biology of AIDS

BIOL 0190E  Botanical Roots of Modern Medicine

BIOL 0200  The Foundation of Living Systems (Human Biology/Physiology course)

BIOL 0470  Genetics (Human Biology/Physiology course)

BIOL 0530  Principles of Immunology (Human Biology/Physiology course)

BIOL 0800  Principles of Physiology (Human Biology/Physiology course)

BIOL 0860  Diet and Chronic Disease

BIOL 0920A  Controversies in Medicine (Human Biology/Physiology course)

BIOL 1920C  Social Contexts of Disease

CLPS 0700  Social Psychology

CLPS 1700  Abnormal Psychology

CLPS 1783  Nudge: How to Use Social Psychology to Create Social Change

ECON 0510  Development and the International Economy

EDUC 0800  Introduction to Human Development and Education


ENVS 0490  Environmental Science in a Changing World

ETHN 1890J  Native American Environmental Health Movements

GNSS 0090C  Reproductive Health: Science and Politics

HMAN 1970G  International Perspectives on NGOs, Public Health, and Health Care Inequalities

NEUR 0010  The Brain: An Introduction to Neuroscience (Human Biology/Physiology course)

NEUR 0700  Psychoactive Drugs and Society

IAPA 1700E  Nonprofit Organizations

IAPA 1700F  Engaged Research Engaged Publics

IAPA 1803E  Social Entrepreneurship

POLS 1740  Politics of Food

SOC 0230  Sex, Gender, and Society

SOC 0300B  Environment and Society

SOC 0300E  HIV/AIDS: Politics, Culture and Society

SOC 0300F  Unequal From Birth: Child Health From a Social Perspective

SOC 0300K  Inequalities and Health

SOC 1250  Perceptions of Mental Illness

SOC 1315  Macro-Organizational Theory: Organizations in Social Context

SOC 1410  Aging and the Quality of Life

SOC 1540  Human Needs and Social Services

SOC 1550  Sociology of Medicine

SOC 1870D  Aging and Social Policy

SOC 1871H  Social Perspectives on HIV/AIDS

SOC 1871N  Military Health: The Quest for Healthy Violence

STS 0700B  Science and Social Controversy

STS 1700C  Science and Technology Policy in the Global South

UNIV 0090  Meditation and the Brain: Applications in Basic and Clinical Science

Total Credits 12

Honors:
An Honors track is available for students who qualify. Honors track students do not enroll in PHP1910, Senior Seminar, during the Fall

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semester of their senior year, but rather are required to enroll in PHP 1980 PHP 1980 PHP 1980 PHP 1980 for both semesters of their senior year to conduct research and write the honors thesis. Thus, thirteen courses are required for completion of the concentration requirements for an honors track student. As is required of all seniors, honors track students are expected to complete a Public Health Communications Module project as part of Fall semester of PHP 1980. Please visit https://www.brown.edu/academics/public-health/undergraduate/curriculum for details or email Elizabeth Mellen (elizabeth_mellen@brown.edu) for more information.

Study Abroad/Study Away: Up to four courses taken elsewhere (study abroad or other transfer) may be applied to non-core courses (up to two per semester abroad). Meet with a concentration adviser to discuss and provide a syllabus for each course to be considered for transfer to your concentration plan.

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:
- IAPA 0110 Introduction to Public Policy
- Ethics and Public Policy
- POLS 1050 Ethics and Public Policy
- Economics for Public Policy
- ECON 1110 Intermediate Microeconomics
- ECON 1130 Intermediate Microeconomics (Mathematical)
- EDUC 1130 Economics of Education I
- Statistics for Public Policy
- POLS 1600 Political Research Methods
- EDUC 1100 Introduction to Qualitative Research Methods
- ECON 1620 Introduction to Econometrics
- ECON 1630 Mathematical Econometrics I
- SOC 1100 Introductory Statistics for Social Research
- Policy Analysis and Program Evaluation
- IAPA 1700A Program Evaluation

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
- PHP 1100 Comparative Health Care Systems
- PHP 1520 Emergency Medical Systems: An Anatomy of Critical Performance
- PHP 1530 Case Studies in Public Health: The Role of Governments, Communities and Professions
- IAPA 1804E Health Policy Challenges

Technology Policy
- CSCI 1800 Cybersecurity and International Relations
- POLS 1822X Technology and International Politics
- STS 1700C Science and Technology Policy in the Global South

Environmental Policy
- ENVS 1350 Environmental Economics and Policy
- ENVS 1410 Environmental Law and Policy
- ENVS 1530 From Locke to Deep Ecology: Property Rights and Environmental Policy
- ENVS 1555 Urban Agriculture: The Importance of Localized Food Systems
- PHP 1700 Current Topics in Environmental Health

Governance, Law, and Ethics
- POLS 0220 City Politics
- POLS 1010 Topics in American Constitutional Law

Social Policy
- ECON 1170 Welfare Economics and Social Choice Theory
- SOC 1540 Human Needs and Social Services

Urban Policy
- SOC 1600 Comparative Development
- URBN 1870F Housing and Homelessness

Modes of Social Change
- IAPA 1700E Nonprofit Organizations
- IAPA 1700B Investigating Modes of Social Change
- IAPA 1803E Social Entrepreneurship
- SOC 1870A Investing in Social Change

Senior Capstone: The capstone may take the form of an Honors Thesis, Independent Study, a Public Policy internship, research Assistantship, UTRA Assistantship, or designated Senior Seminar

Total Credits 10
1 Two of the five elective courses must have a primary listing in Public Policy. One of the five must be designated as a writing course.
2 One elective must be focused on global issues

Honors

Candidates for honors should apply in the Spring term of their third year. Successful candidates will enroll in the Public Policy Colloquium and prepare a senior honors paper.

Religious Studies

Religious Studies explores religious thought and practice in various historical, political, cultural, and social contexts in order to understand and interpret societies and cultures throughout the world. It fosters scholarly skills such as close reading (of texts, images, artifacts, and other social data), excellence in writing and verbal expression, interpretation of the past and present from multiple forms of evidence, and assessment of contemporary social issues. By exploring the public and private concerns that the study of religion highlights -- for example, the creation

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of community, the nature of the individual, suffering and death, notions of good and evil — students discover new ways of engaging the complex world in which they live. As students examine religious activity in the Americas, South and East Asia, the Middle East and West Asia, Africa, and Europe, they not only learn about the formation and transmission of beliefs, behaviors, values, rituals, and identities but also come to understand how diverse peoples have expressed religious understandings of themselves and others through politics, institutions, conflicts, and spaces commonly recognized as secular.

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 methods in the study of religion) and eight other 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 eight concentration courses, no more than four courses (out of nine) can be at the introductory level (0001-0199). In addition to any introductory courses and RELS 1000, the plan of study must include at least two intermediate-level courses (0200-0999) and two advanced-level courses (above 1000).

3. Geographic and Methodological Distribution:

In order to ensure that students study a diversity of religious traditions and learn about multiple methods of study, the eight concentration courses (that is, the courses other than RELS 1000) must: 1) reflect more than one approach to the study of religion (e.g., philosophical, anthropological, historical); and 2) examine more than one religious tradition. To ensure that students examine multiple traditions, the plan of study ordinarily should include two or more courses in each of these areas: A) Traditions that emerge from the Mediterranean world and West Asia/Islamic World (e.g., Judaism, Christianity, Islam); and B) Traditions that emerge from South and East Asia (e.g., Buddhism, Hinduism, Daoism).

A. Traditions that emerge from the Mediterranean world and West Asia/Islamic World (e.g., Christianity, Judaism, Islam)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>RELS 0011</td>
<td>Faith and Violence</td>
</tr>
<tr>
<td>RELS 0014</td>
<td>Jesus</td>
</tr>
<tr>
<td>RELS 0015</td>
<td>Sacred Stories</td>
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<td>RELS 0022</td>
<td>Introduction to the New Testament</td>
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<tr>
<td>RELS 0025</td>
<td>Wealth: Religious Approaches</td>
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<tr>
<td>RELS 0050</td>
<td>Love: The Concept and Practice</td>
</tr>
<tr>
<td>RELS 0055</td>
<td>Modern Problems of Belief</td>
</tr>
<tr>
<td>RELS 0056</td>
<td>Spiritual But Not Religious: Making Spirituality in America</td>
</tr>
<tr>
<td>RELS 0058</td>
<td>Christianity and Culture</td>
</tr>
<tr>
<td>RELS 0060B</td>
<td>Foreigners, Refugees, and the Ethics of Minority (JUDS 0061)</td>
</tr>
<tr>
<td>RELS 0060C</td>
<td>The Bible and Moral Debate (JUDS 0060)</td>
</tr>
<tr>
<td>RELS 0060D</td>
<td>Antisemitism: A History (JUDS 0063)</td>
</tr>
<tr>
<td>RELS 0065</td>
<td>On Being Human: Religious and Philosophical Conceptions of Self</td>
</tr>
<tr>
<td>RELS 0068</td>
<td>Religion and Torture</td>
</tr>
<tr>
<td>RELS 0085A</td>
<td>Exodus: Freedom in the Modern Black and Jewish Religious Imaginations</td>
</tr>
<tr>
<td>RELS 0085B</td>
<td>Blues People: Topics in African American Religion and Culture</td>
</tr>
<tr>
<td>RELS 0086</td>
<td>Religion and Movement Politics</td>
</tr>
<tr>
<td>RELS 0087</td>
<td>Religion in America</td>
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<tr>
<td>RELS 0088</td>
<td>Judaism, Christianity, and Islam</td>
</tr>
<tr>
<td>RELS 0090E</td>
<td>Faith and Violence</td>
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<table>
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<tbody>
<tr>
<td>RELS 0090F</td>
<td>Friendship in the Ancient World</td>
</tr>
<tr>
<td>RELS 0090I</td>
<td>Radical Romantics: Politics, Ecology, and Religion</td>
</tr>
<tr>
<td>RELS 0090J</td>
<td>Death and Afterlife in the Biblical Tradition</td>
</tr>
<tr>
<td>RELS 0090K</td>
<td>Christmas in America</td>
</tr>
<tr>
<td>RELS 0090L</td>
<td>Pilgrimage and Quest</td>
</tr>
<tr>
<td>RELS 0090M</td>
<td>Islam, Violence and Media</td>
</tr>
<tr>
<td>RELS 0095A</td>
<td>Islam from the Ground Up</td>
</tr>
<tr>
<td>RELS 0096</td>
<td>The Imaginary Lives of Muslims</td>
</tr>
<tr>
<td>RELS 0105</td>
<td>Judaism</td>
</tr>
<tr>
<td>RELS 0110</td>
<td>Christians</td>
</tr>
<tr>
<td>RELS 0150</td>
<td>Islam Unveiled</td>
</tr>
<tr>
<td>RELS 0195</td>
<td>Gender in Early Jewish and Christian Narratives</td>
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<tr>
<td>RELS 0200A</td>
<td>Christianity and Economic Inequality</td>
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<tr>
<td>RELS 0240</td>
<td>Judaism and Christianity in Conflict</td>
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<tr>
<td>RELS 0260</td>
<td>Religion Gone Wild: Spirituality and the Environment</td>
</tr>
<tr>
<td>RELS 0290D</td>
<td>Islamic Sexualities</td>
</tr>
<tr>
<td>RELS 0290H</td>
<td>Defense Against the Dark Arts in the Ancient World</td>
</tr>
<tr>
<td>RELS 0320</td>
<td>Israelite Religion</td>
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<tr>
<td>RELS 0323</td>
<td>Great Jewish Books</td>
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<tr>
<td>RELS 0325</td>
<td>How the Bible Became Holy</td>
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<tr>
<td>RELS 0410</td>
<td>Christianity in Late Antiquity</td>
</tr>
<tr>
<td>RELS 0415</td>
<td>Ancient Christian Culture</td>
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<tr>
<td>RELS 0420</td>
<td>Sacred Bodies</td>
</tr>
<tr>
<td>RELS 0430</td>
<td>Sacred Stories</td>
</tr>
<tr>
<td>RELS 0600A</td>
<td>Islam Today: Religion and Culture in the Modern Middle East and Beyond</td>
</tr>
<tr>
<td>RELS 0600B</td>
<td>Islam in America</td>
</tr>
<tr>
<td>RELS 0600C</td>
<td>Radical Islam (?)</td>
</tr>
<tr>
<td>RELS 0600D</td>
<td>Black &amp; Brown Islam in the US</td>
</tr>
<tr>
<td>RELS 0640</td>
<td>Dying To Be With God: Jihad, Past and Present</td>
</tr>
<tr>
<td>RELS 0700B</td>
<td>The Bible as Literature (JUDS 0830)</td>
</tr>
<tr>
<td>RELS 0700C</td>
<td>Race, Religion, and the Secular (JUDS 0803)</td>
</tr>
<tr>
<td>RELS 0700D</td>
<td>How the Bible became Holy (JUDS 0682)</td>
</tr>
<tr>
<td>RELS 0700E</td>
<td>The Language of Religious Faith (JUDS 0820)</td>
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<tr>
<td>RELS 0700F</td>
<td>War and Peace in the Hebrew Bible and Its Environment (JUDS 0670)</td>
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<tr>
<td>RELS 0700G</td>
<td>Gender in Early Jewish and Christian Texts (JUDS 0606)</td>
</tr>
<tr>
<td>RELS 0810</td>
<td>Conservatives vs. Liberals: Religion and Identity in America</td>
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<tr>
<td>RELS 0820</td>
<td>African American Religious Strategies: Martin and Malcolm</td>
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<tr>
<td>RELS 0822</td>
<td>Social Justice and the Musical Afrofuture</td>
</tr>
<tr>
<td>RELS 0825</td>
<td>Foundational Texts in African American Theology</td>
</tr>
<tr>
<td>RELS 0830</td>
<td>Religion, Reason, and Ethics from Kant to Nietzsche</td>
</tr>
<tr>
<td>RELS 0835</td>
<td>Black and Brown Religion in America</td>
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<tr>
<td>RELS 0840</td>
<td>Religion and Politics</td>
</tr>
<tr>
<td>RELS 0841</td>
<td>Far-Right Religious Terrorism</td>
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<tr>
<td>RELS 0845</td>
<td>Religious Freedom in America</td>
</tr>
<tr>
<td>RELS 0850</td>
<td>Liberation Theology in the Americas</td>
</tr>
<tr>
<td>RELS 0880D</td>
<td>Fascism: 1933 - Present (UNIV 0701)</td>
</tr>
</tbody>
</table>

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

RELS 1050A Problems in Israelite Religion and Ancient Judaism (JUDS 1625)
RELS 1050B Heidegger, the Jew and the Crisis of Liberalism (JUDS 1614)
RELS 1050C Prophets and Priests in Exile: Biblical Literature of the 6th Century BCE (JUDS 1690)
RELS 1050D Jewish Magic (JUDS 1801)
RELS 1050E Jewish and Christian Identity in the Ancient Period (JUDS 1601)
RELS 1050F Digging for the Bible: Science, Religion, and Politics (JUDS 1974)
RELS 1050G On the Margins of the Bible: Jewish and Christian Non-Canonical Texts (JUDS 1603)

RELS 1105 Kabbalah: An Introduction to Jewish Mysticism

RELS 1130 Philo
RELS 1144 Adam and Eve in Early Jewish and Christian Interpretation
RELS 1150 Religion in the Dead Sea Scrolls
RELS 1300 Ancient Christianity and the Sensing Body
RELS 1315 Religious Authority in an Age of Empire
RELS 1320 Social World of the Early Christians
RELS 1325A Educating Bodies in Ancient Christianity
RELS 1325B Early Christian Asceticism: Rhetorics of Practice
RELS 1325C The Virgin Mary in Christian Tradition
RELS 1325D Desire and the Sacred
RELS 1340A Roman Religion (CLAS 1410)
RELS 1370A Augustine and Hegel
RELS 1370B Philosophy of Mysticism
RELS 1370C David Hume and Religion
RELS 1370D Process Theology
RELS 1380A Money, Media, and Religion
RELS 1380C Law and Religion
RELS 1385 Religion and Postmodernism
RELS 1500 From Moses to Muhammad: Prophets of the Ancient World
RELS 1510 Islam in South Asia
RELS 1520 Pilgrimage and Sacred Travel in the Lands of Islam
RELS 1530A Methods and Problems in Islamic Studies: Narratives
RELS 1530B Heresy and Orthodoxy in Islamic Thought
RELS 1530D Medieval Islamic Sectarianism
RELS 1540 Monks, Mystics and Martyrs: Abrahamic Traditions Compared
RELS 1610 Sacred Sites: Law, Politics, Religion
RELS 1620 Disability in Antiquity
RELS 1650 Gospel Music from the Church to the Streets
RELS 1660 Religion and Suspicion
RELS 1830A Pragmatism, Religion, and Politics
RELS 1880A The Gift in Antiquity
RELS 1990 Individual Study Project

B. Traditions that emerge from South and East Asia (e.g., Buddhism, Hinduism, Daoism)
RELS 0030 Sound, Song and Salvation in South Asia
RELS 0032 Music and Meditation
RELS 0034 Dharma: A History of Classical Indian Civilization
RELS 0035 Saints and Mystics of India
RELS 0036 Love and War in India
RELS 0037 Sensing the Sacred: Sensory Culture in South Asian Religions
RELS 0040 or COST 0040 Great Contemplative Traditions of Asia
RELS 0045 Buddhism and Death
RELS 0072 Asian Classics
RELS 0080 Japan: Nature, Ritual and the Arts
RELS 0090L Pilgrimage and Quest
RELS 0100 Buddhist Thought, Practice, and Society
RELS 0120 The Classical Chinese Philosophy of Life
RELS 0140 Food, Religion and Politics in South Asia
RELS 0145 Karma, Rebirth and Liberation: Life and Death in South Asian Religions
or COST 0145 Karma, Rebirth and Liberation: Life and Death in South Asian Religions
RELS 0290E Engaged Buddhism
RELS 0500 The Theory and Practice of Buddhist Meditation
RELS 0505 Big Screen Buddha
RELS 0510 Confucian Ethics
RELS 0520 Tai Chi, Qigong, and Traditions of Energy Cultivation in China
RELS 0525 The History and Practice of Yoga in India and Beyond
RELS 0526 This Whole World is OM: Mantras in Indian Religions
RELS 0530 Laozi and the Dao de Jing
RELS 0550 Tibetan Buddhism and the West
RELS 0570 Science, Religion, and the Search for Happiness in Traditional Asian Thought
RELS 0580 Experiencing the Sacred: Embodiment and Aesthetics in South Asian Religions
RELS 0915B The Bhagavad Gita (CLAS 0855)
RELS 0915C Mythology of India (CLAS 0850)
RELS 0915D Dreaming in the Ancient World (CLAS 0771)
RELS 1110 Religious Japan
RELS 1140 Directed Readings in Chinese Religious Thought: Zhuangzi
RELS 1415A Classical Daoist Thought
RELS 1420 The Contemplative Foundations of Classical Daoism
RELS 1425 Buddhist Poetry
RELS 1430 Buddhist Classics
RELS 1435 Buddhism in Motion
RELS 1440A Themes in Japanese Buddhism
RELS 1440B The Archaeology of Japanese Buddhism
RELS 1441 Zen Meditation in China, Korea, and Japan
RELS 1442 The History, Philosophy, and Practice of Rinzai Zen Buddhism
RELS 1700A The History, Philosophy, and Practice of Rinzai Zen: Zen Master Hakuin Ekaku
RELS 1705A Principles and Practices of Contemplative Studies

4. Courses in Other Departments
Courses listed in other departments but taught by Religious Studies faculty count toward the program of study. In addition to cross-listed courses taught by Religious Studies faculty, up to three courses taught by faculty

For up-to-date course information please visit Courses@Brown.edu (https://cabs.brown.edu).
in other departments can count toward the program (pending approval by the DUS). 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

No later than the end of spring registration in the junior year, the concentrator will determine how they will complete a senior capstone project for this requirement - either by selecting a capstone course, or by undertaking an honors thesis. A capstone course will be selected in consultation with the concentration advisor and other faculty as appropriate. Within the frame of this capstone course and through work completed for the course, the concentrator will address the theoretical and interpretive issues of their particular focus in the Religious Studies concentration.

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 eight concentration courses (in addition to RELS 1000) the student will enroll in RELS 1999 during both semesters of the senior year. Whether or not a student receives honors, RELS 1999 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/NC” 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.

Daniel Vaca, 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 (normally Russian or Czech) the program allows students to develop an in-depth appreciation and understanding of East 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 and composers: Tolstoy and Dostoevsky, Gogol and Bulgakov, Tchaikovsky and Mussorgsky, and Rachmaninoff and Stravinsky. Focusing on Czech allows students to explore, for example, how Czechs distinguished themselves by peacefully transitioning from communism to capitalism (the “Velvet Revolution”) and separating peacefully with the Slovak Republic (the “Velvet Divorce”). 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 (normally Czech or Russian), or a combined total of eight semesters of two Slavic languages or the equivalent.

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

<table>
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<tr>
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<th>Course Name</th>
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<tbody>
<tr>
<td>RUSS 0100</td>
<td>Introductory Russian</td>
</tr>
<tr>
<td>or RUSS 0200</td>
<td>and Introductory Russian</td>
</tr>
<tr>
<td>or RUSS 0110</td>
<td>Intensive Russian</td>
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<table>
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<tr>
<th>Course Code</th>
<th>Course Name</th>
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<tbody>
<tr>
<td>RUSS 0300</td>
<td>Intermediate Russian</td>
</tr>
<tr>
<td>RUSS 0400</td>
<td>Intermediate Russian</td>
</tr>
<tr>
<td>RUSS 0500</td>
<td>Advanced Russian</td>
</tr>
<tr>
<td>RUSS 0600</td>
<td>Advanced Russian</td>
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</tbody>
</table>

Summer courses offered on the Brown in Petersburg Program can enable advanced placement in academic year courses.

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>RUSS 0250</td>
<td>Introductory Russian in St. Petersburg</td>
</tr>
<tr>
<td>RUSS 0350</td>
<td>Intermediate Russian in St. Petersburg</td>
</tr>
<tr>
<td>RUSS 0550</td>
<td>Advanced Russian in St. Petersburg</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 Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>CZCH 0100</td>
<td>Introductory Czech</td>
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<tr>
<td>&amp; CZCH 0200</td>
<td>and Introductory Czech</td>
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<tr>
<td>CZCH 0410A</td>
<td>Boys and Girls: Relationships under Socialism in Bohemia</td>
</tr>
<tr>
<td>CZCH 0410B</td>
<td>Coming of Age in Postwar Czechoslovakia</td>
</tr>
<tr>
<td>CZCH 0410C</td>
<td>Czech View of Self and Others</td>
</tr>
<tr>
<td>CZCH 0410D</td>
<td>Czechs and the Big Brother: Czech Lands in the 1980s</td>
</tr>
<tr>
<td>CZCH 0610A</td>
<td>Czech Lands under Occupation and Terror</td>
</tr>
<tr>
<td>CZCH 0610B</td>
<td>Psychosis of Occupation in the Czech Lands</td>
</tr>
<tr>
<td>CZCH 0610C</td>
<td>Czech Cultural Icons, Emblems, and National Identity</td>
</tr>
<tr>
<td>PLSH 0100</td>
<td>Introductory Polish</td>
</tr>
<tr>
<td>&amp; PLSH 0200</td>
<td>and Introductory Polish</td>
</tr>
<tr>
<td>PLSH 0300</td>
<td>Intermediate Polish</td>
</tr>
<tr>
<td>&amp; PLSH 0400</td>
<td>and Intermediate Polish</td>
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</table>

The concentration in Slavic Studies requires students to complete a minimum of seven 1000-level courses devoted to the study of the East 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 Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>RUSS 1110</td>
<td>Special Topics in Russian Studies I: Advanced Reading and Conversation</td>
</tr>
<tr>
<td>RUSS 1200</td>
<td>Russian Fantasy and Science Fiction</td>
</tr>
<tr>
<td>RUSS 1250</td>
<td>Russian Cinema</td>
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<tr>
<td>RUSS 1290</td>
<td>Russian Literature in Translation I: Pushkin to Dostoevsky</td>
</tr>
<tr>
<td>RUSS 1300</td>
<td>Russian Literature in Translation II: Tolstoy to Solzhenitsyn</td>
</tr>
<tr>
<td>RUSS 1320</td>
<td>Soviet Literature from 1917 to 1953</td>
</tr>
<tr>
<td>RUSS 1330</td>
<td>Soviet Culture: Propaganda, Dissidence, Underground</td>
</tr>
<tr>
<td>RUSS 1340</td>
<td>The Russian Novel</td>
</tr>
<tr>
<td>RUSS 1350</td>
<td>Putin, Russia and the New Conflict with the West: Reading Modern Russian Culture</td>
</tr>
<tr>
<td>RUSS 1450</td>
<td>Love, Adultery, and Sexuality</td>
</tr>
<tr>
<td>RUSS 1500</td>
<td>Approaches to Russian Literature</td>
</tr>
<tr>
<td>RUSS 1600</td>
<td>Literature and History: Russian Historical Imagination in the European Context</td>
</tr>
<tr>
<td>RUSS 1800</td>
<td>Pushkin</td>
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</table>

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
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</thead>
<tbody>
<tr>
<td>RUSS 1810</td>
<td>Tolstoy</td>
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<tr>
<td>RUSS 1820</td>
<td>Dostoevsky</td>
</tr>
<tr>
<td>RUSS 1840</td>
<td>Nabokov</td>
</tr>
<tr>
<td>RUSS 1860</td>
<td>Chekhov</td>
</tr>
<tr>
<td>RUSS 1900</td>
<td>Russian Jewish Literature and Film</td>
</tr>
<tr>
<td>SLAV 1300</td>
<td>Sociolinguistics (with Case Studies on the Former USSR and Eastern Europe)</td>
</tr>
</tbody>
</table>

Sample courses in other departments:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
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<tbody>
<tr>
<td>HIST 1268C</td>
<td>The Collapse of Socialism and the Rise of New Russia</td>
</tr>
<tr>
<td>POLS 1220</td>
<td>Politics in Russia and Eastern Europe</td>
</tr>
<tr>
<td>TAPS 1430</td>
<td>Russian Theatre and Drama</td>
</tr>
<tr>
<td>TAPS 2120</td>
<td>Revolution as a Work of Art</td>
</tr>
</tbody>
</table>

**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:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 0090</td>
<td>Introductory Calculus, Part I</td>
</tr>
<tr>
<td>SOC 1100</td>
<td>Introductory Statistics for Social Research</td>
</tr>
<tr>
<td>&amp; APMA 0650</td>
<td>Essential Statistics</td>
</tr>
<tr>
<td>or ECON 1620</td>
<td>Introduction to Econometrics</td>
</tr>
<tr>
<td>SOC 1020</td>
<td>Methods of Social Research</td>
</tr>
<tr>
<td>SOC 2010</td>
<td>Multivariate Statistical Methods I</td>
</tr>
<tr>
<td>SOC 1010</td>
<td>Classical Sociological Theory</td>
</tr>
<tr>
<td>SOC 1950</td>
<td>Senior Seminar</td>
</tr>
<tr>
<td>Three (3)</td>
<td>substantive or theory courses (non-methodological courses) in Sociology, two (2) of which must be at the 1000-level or above.</td>
</tr>
<tr>
<td>Three (3)</td>
<td>of the following advanced analysis courses:</td>
</tr>
</tbody>
</table>

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

A one semester or a summer research internship is required. The research internship is designed to provide students with hands-on experience in social research. Students will typically complete the research internship in their junior year or during the summer between their junior and senior years. Students need to submit an Internship Proposal Form to the Undergraduate Concentration Advisor for approval prior to starting the internship. Upon completion of the internship, students are required to submit to the Undergraduate Concentration Advisor a brief summary report of their experience, which must be signed by the supervisor of the student's internship.

Academic research internships involve work on a faculty member's research project. Activities may range from data collection, data entry, data file management, descriptive analyses, and more advanced model estimation. Students are encouraged to approach faculty about opportunities for working on their research projects. Off-campus research internships are arranged through the Sociology Department Students Affairs Coordinator or the Undergraduate Concentration Advisor. Academic and off-campus research internships will typically entail 5-10 hours of work per week and may or may not involve compensation.

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).

The Senior Seminar

Social Analysis and Research 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 on a topic of their own interests. To fulfill this requirement students enroll in SOC 1950 (http://bulletin.brown.edu/search/?P=SOC%201950) – Senior Seminar. Participation in this seminar allows each cohort of concentrators to discuss their diverse interests and exposure them to the wide range of applications of Sociological knowledge.

An undergraduate 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 of the senior thesis to the Co-Director of Undergraduate Studies. At the start of the seventh semester students should submit to the Co-Director of Undergraduate Studies a proposal (not more than four pages) accompanied by the signature of one faculty member indicating that he or she is willing to serve as primary advisor on the thesis. 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 the 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 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 with an off-campus organization. Projects are complemented by a paper or report that situates the central subject matter of the project within the context of sociological scholarship.

Honors

In order to be considered for honors, students must receive a grade point average of at least 3.5 (A=4, B-3, C=2) on all concentration courses taken, and no more than one (1) of the concentration courses with the "S/NC" option. Honors also requires a senior thesis, with a recommendation of Honors by the advisor and reader, that demonstrates an understanding of empirical research.

Independent Study

Students can use no more than one (1) Independent Study course (SOC 1970 (http://bulletin.brown.edu/search/?P=SOC%201970)) 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 requirement.

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.

Required core:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOC 0010</td>
<td>Social Forces: An Introduction to Sociology</td>
<td>1</td>
</tr>
<tr>
<td>SOC 1010</td>
<td>Classical Sociological Theory</td>
<td>1</td>
</tr>
<tr>
<td>SOC 1020</td>
<td>Methods of Social Research</td>
<td>1</td>
</tr>
<tr>
<td>SOC 1100</td>
<td>Introductory Statistics for Social Research</td>
<td>1</td>
</tr>
<tr>
<td>or APMA 0650</td>
<td>Essential Statistics</td>
<td></td>
</tr>
<tr>
<td>or ECON 1620</td>
<td>Introduction to Econometrics</td>
<td></td>
</tr>
<tr>
<td>or CLPS 0900</td>
<td>Statistical Methods</td>
<td></td>
</tr>
</tbody>
</table>

SOC 1950

Senior Seminar

5 additional courses:

a) At least three of the optional courses have to be 1000 level and one of them must be a substantive seminar (1870/1871).

b) Students can choose to take up to two (showcase) lower level (0100 level) courses.

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

Required Core:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOC 0010</td>
<td>Social Forces: An Introduction to Sociology</td>
<td>1</td>
</tr>
<tr>
<td>SOC 1010</td>
<td>Classical Sociological Theory</td>
<td>1</td>
</tr>
<tr>
<td>SOC 1020</td>
<td>Methods of Social Research</td>
<td>1</td>
</tr>
<tr>
<td>SOC 1100</td>
<td>Introductory Statistics for Social Research</td>
<td>1</td>
</tr>
<tr>
<td>or APMA 0650</td>
<td>Essential Statistics</td>
<td>1</td>
</tr>
<tr>
<td>or ECON 1620</td>
<td>Introduction to Econometrics</td>
<td>1</td>
</tr>
<tr>
<td>or CLPS 0900</td>
<td>Statistical Methods</td>
<td>1</td>
</tr>
<tr>
<td>SOC 1950</td>
<td>Senior Seminar</td>
<td>1</td>
</tr>
</tbody>
</table>

Foundations of Organizational Studies (choose two of the following):

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOC 0300</td>
<td>Organizations and Society</td>
<td>1</td>
</tr>
<tr>
<td>SOC 1311</td>
<td>Micro-Organizational Theory: Social Behavior in Organizations</td>
<td>1</td>
</tr>
<tr>
<td>SOC 1315</td>
<td>Macro-Organizational Theory: Organizations in Social Context</td>
<td>1</td>
</tr>
</tbody>
</table>

Advanced Organizational Studies Course (choose one course). The following are approved EXAMPLES. Please consult Courses@Brown/Concentration Advisor for current offerings.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOC 1060</td>
<td>Leadership in Organizations</td>
<td>1</td>
</tr>
<tr>
<td>SOC 1070</td>
<td>Introduction to Economic Sociology</td>
<td>1</td>
</tr>
<tr>
<td>SOC 1115</td>
<td>The Enlightened Entrepreneur: Changemakers, Inspired Protagonists and Unreasonable People</td>
<td>1</td>
</tr>
<tr>
<td>SOC 1117</td>
<td>Focus Groups for Market and Social Research</td>
<td>1</td>
</tr>
<tr>
<td>SOC 1118</td>
<td>Context Research for Innovation</td>
<td>1</td>
</tr>
<tr>
<td>SOC 1120</td>
<td>Market and Social Surveys</td>
<td>1</td>
</tr>
<tr>
<td>SOC 1220</td>
<td>Future of Work</td>
<td>1</td>
</tr>
<tr>
<td>SOC 1260</td>
<td>Market Research in Public and Private Sectors</td>
<td>1</td>
</tr>
<tr>
<td>SOC 1311</td>
<td>Micro-Organizational Theory: Social Behavior in Organizations (If not used to meet the &quot;Foundations&quot; requirement, above)</td>
<td>1</td>
</tr>
<tr>
<td>SOC 1315</td>
<td>Macro-Organizational Theory: Organizations in Social Context (If not used to meet the &quot;Foundations&quot; requirement, above)</td>
<td>1</td>
</tr>
<tr>
<td>SOC 1870A</td>
<td>Investing in Social Change</td>
<td>1</td>
</tr>
<tr>
<td>SOC 1870L</td>
<td>The Economic Foundations of Everyday Life</td>
<td>1</td>
</tr>
<tr>
<td>SOC 1871C</td>
<td>Sociology of the Legal Profession</td>
<td>1</td>
</tr>
<tr>
<td>SOC 1871O</td>
<td>Law, Innovation and Entrepreneurship</td>
<td>1</td>
</tr>
<tr>
<td>SOC 1872B</td>
<td>Sociology of Money</td>
<td>1</td>
</tr>
<tr>
<td>SOC 1872H</td>
<td>Sociology of FIRE: Finance, Insurance, + Real Estate</td>
<td>1</td>
</tr>
</tbody>
</table>

Two additional courses. Each of these courses must be either (a) offered by the Sociology Department, or (b) drawn from the following list of interdisciplinary "Organization-Relevant Electives:"

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMST 1610A</td>
<td>American Advertising: History and Consequences</td>
<td>1</td>
</tr>
<tr>
<td>CLPS 1250</td>
<td>Human Factors</td>
<td>1</td>
</tr>
<tr>
<td>CLPS 1470</td>
<td>Mechanisms of Motivated Decision Making</td>
<td>1</td>
</tr>
<tr>
<td>CLPS 1730</td>
<td>Psychology in Business and Economics</td>
<td>1</td>
</tr>
<tr>
<td>ECON 0110</td>
<td>Principles of Economics</td>
<td>1</td>
</tr>
<tr>
<td>ECON 1760</td>
<td>Financial Institutions</td>
<td>1</td>
</tr>
<tr>
<td>EDUC 1650</td>
<td>Policy Implementation in Education</td>
<td>1</td>
</tr>
<tr>
<td>EDUC 1730</td>
<td>American Higher Education in Historical Context</td>
<td>1</td>
</tr>
<tr>
<td>ETHN 1890C</td>
<td>Business, Culture, and Globalization: An Ethnographic Perspective</td>
<td>1</td>
</tr>
<tr>
<td>ENGN 1930S</td>
<td>Land Use and Built Environment: An Entrepreneurial View</td>
<td>1</td>
</tr>
<tr>
<td>HIST 0150A</td>
<td>History of Capitalism</td>
<td>1</td>
</tr>
<tr>
<td>POLS 1150</td>
<td>Prosperity: The Ethics and Economics of Wealth Creation</td>
<td>1</td>
</tr>
<tr>
<td>POLS 1240</td>
<td>Politics, Markets and States in Developing Countries</td>
<td>1</td>
</tr>
<tr>
<td>POLS 1820W</td>
<td>Market Liberalism: Origins, Principles and Contemporary Applications</td>
<td>1</td>
</tr>
</tbody>
</table>

Total Credits: 10

Additional Restrictions to the Organizational Studies Track:

Lower-level Coursework: Students may count no more than two courses toward the Organizational Studies and Concentration Elective requirements (combined). SOC 0300, if taken, will count as part of this lower-level course allowance.

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 (1870/1871)

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 Sociology Department 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 their sociological learning to a topic of their own interest. (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. This seminar allows each cohort of concentrators to discuss their diverse interests and exposes participants 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 to the Co-Director of Undergraduate Studies. At the start of the seventh semester, students should submit to the Co-Director of Undergraduate Studies a thesis proposal (not more than four pages) accompanied by the signature of one faculty member indicating that he or she is willing to serve as primary advisor on the thesis. Students wishing to qualify for Honors must complete a senior thesis, rather than a capstone project (see below).

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. An Independent Study course cannot serve as a substitute for any of the "required core" concentration requirements.

**Honors**

In order to be considered for honors, students must achieve a grade point average of at least 3.5 (A=4, B=3, C=2) on all courses counted toward concentration requirements. No more than one (1) of the courses counted toward concentration requirements may be taken with the "S/NC" option. Honors also requires a senior thesis (as described above), that demonstrates an understanding of empirical research and that receives a recommendation of Honors from the advisor and reader.

**South Asian Studies**

The diversity and shared histories of South Asia's cultures, religions, languages, and nations are an important area of engagement in the world today. While India, Pakistan, Bangladesh, Sri Lanka, Nepal and neighboring nation-states constitute a recognizable geographic region, the equally vital diasporic communities from South Asia and their globally dispersed networks extend our understanding of an old and yet changing South Asia. South Asian Studies is an interdisciplinary concentration in which students work in a specified chronological period (e.g. ancient, medieval, early modern, or contemporary), in a geographical area (e.g. Bangladesh, Bengal, Maharashtra, North India, Pakistan, South India), or in a particular discipline (e.g. anthropology, Hindi/Urdu, history, religion, or Sanskrit) but also take courses outside of their chosen area of emphasis in disciplines such as economics, literature, philosophy, political science, or theatre arts.

**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).

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAST 0700</td>
<td>Introduction to Modern South Asia</td>
</tr>
<tr>
<td>or HIST 1620</td>
<td>Resisting Empire: Gandhi and the Making of Modern South Asia</td>
</tr>
</tbody>
</table>

**Two courses in the Humanities with a majority focus in South Asia, such as:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLAS 0995</td>
<td>India’s Classical Performing Arts</td>
</tr>
<tr>
<td>CLAS 1140</td>
<td>Classical Philosophy of India</td>
</tr>
<tr>
<td>COST 0034</td>
<td>Dharma: A History of Classical Indian Civilization</td>
</tr>
<tr>
<td>RELS 1510</td>
<td>Islam in South Asia</td>
</tr>
<tr>
<td>RELS 0036</td>
<td>Love and War in India</td>
</tr>
<tr>
<td>RELS 0037</td>
<td>Sensing the Sacred: Sensory Culture in South Asian Religions</td>
</tr>
<tr>
<td>RELS 0526</td>
<td>This Whole World is OM: Mantras in South Asian Religions</td>
</tr>
<tr>
<td>COST 0145</td>
<td>Karma, Rebirth and Liberation: Life and Death in South Asian Religions</td>
</tr>
<tr>
<td>COST 0525</td>
<td>The History and Practice of Yoga in India and Beyond</td>
</tr>
</tbody>
</table>

**Two courses in the Social Sciences with a majority focus on South Asia, such as:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTH 0110</td>
<td>Anthropology and Global Social Problems: Environment, Development, and Governance</td>
</tr>
<tr>
<td>HIST 1979D</td>
<td>Ruined History: Visual and Material Culture in South Asia</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>POLS 1280</td>
<td>Politics, Economy and Society in India</td>
</tr>
<tr>
<td>SAST 0526</td>
<td>This Whole World is OM: Mantras in Indian Religions</td>
</tr>
<tr>
<td>SAST 0525</td>
<td>The History and Practice of Yoga in India and Beyond</td>
</tr>
<tr>
<td>SAST 0140</td>
<td>Food, Religion and Politics in South Asia</td>
</tr>
<tr>
<td>SAST 0037</td>
<td>Sensing the Sacred: Sensory Culture in South Asian Religions</td>
</tr>
<tr>
<td>SAST 0034</td>
<td>Dharma: A History of Classical Indian Civilization</td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTH 0100</td>
<td>Introduction to Cultural Anthropology</td>
</tr>
<tr>
<td>ANTH 2320</td>
<td>Ideology of Development</td>
</tr>
<tr>
<td>COST 0100</td>
<td>Introduction to Contemplative Studies</td>
</tr>
<tr>
<td>ECON 0510</td>
<td>Development and the International Economy</td>
</tr>
<tr>
<td>ECON 2510</td>
<td>Economic Development I</td>
</tr>
<tr>
<td>HIAA 0081</td>
<td>Architecture of the House Through Space and Time</td>
</tr>
<tr>
<td>HIST 1440</td>
<td>The Ottomans: Faith, Law, Empire</td>
</tr>
<tr>
<td>HNDI 0200</td>
<td>Beginning Hindi or Urdu</td>
</tr>
<tr>
<td>HNDI 0400</td>
<td>Intermediate Hindi-Urdu</td>
</tr>
<tr>
<td>HNDI 1080</td>
<td>Advanced Hindi-Urdu</td>
</tr>
<tr>
<td>MCM 1505O</td>
<td>Does Utopia Still Exist? Media, politics and the hope of something else</td>
</tr>
<tr>
<td>POLS 0200</td>
<td>Introduction to Comparative Politics</td>
</tr>
<tr>
<td>POLS 1380</td>
<td>Ethnic Politics and Conflict</td>
</tr>
<tr>
<td>RELS 0100</td>
<td>Buddhist Thought, Practice, and Society</td>
</tr>
<tr>
<td>SAST 1970</td>
<td>Independent Study</td>
</tr>
<tr>
<td>SANS 0200</td>
<td>Elementary Sanskrit II</td>
</tr>
<tr>
<td>SANS 0400</td>
<td>Classical Sanskrit Story Literature</td>
</tr>
<tr>
<td>SANS 1100</td>
<td>Vedic Sanskrit</td>
</tr>
</tbody>
</table>

Total Credits 10

**Language Requirements**

Proficiency in a South Asian language is required for the concentration. Demonstrating proficiency can entail passing a written and oral examination, 4 semesters of formal language study at Brown or another institution, or a high school transcript indicating that the language of instruction for all courses was a South Asian language. Native Hindi/Urdu speakers are encouraged to fulfill the language requirement by taking another South Asian language for four semester, such as Sanskrit at Brown or a relevant language at another institution. Up to two language courses can count toward fulfilling the student's elective requirements.

**Senior-Year Project**

Students must complete either a senior capstone project OR an honors thesis.

Capstone projects or honors theses are opportunities for students to creatively synthesize the thinking on South Asia that they have developed during the concentration. The project should exhibit an empirically and theoretically driven research question or argument about some aspect

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
of South Asian Studies. The senior-year project should involve some research in at least one South Asian language.

All students are encouraged to start thinking about their capstones in their junior year.

**Capstones** can take two primary forms:

1. A research paper of approximately 30 pages on a topic related to South Asia for an existing concentration-eligible course, undertaken with the permission of the instructor.
2. An independent study-based project. The produce and/or process that constitutes this can be artistic, primary or secondary research-based, internship-related, or something else. The project must be supervised by at least one CCSA faculty member* for at least one semester under SAST 1970. This course can count towards the five elective requirements.

At the end of the junior year, each student should meet with the Director of Undergraduate Study (DUS) to review their plan for completing their capstone. If pursuing a capstone project, students will be required to submit, by the end of the shopping period of the fall of their senior year, a short proposal (300 words) that describes how they are going to complete this requirement.

An **Honors Thesis** is a two-semester independent study supervised by a thesis advisor (SAST 1970). These two courses constitute the additional courses needed for honors in the concentration.

An honors thesis can be textual, or it can take other forms (multi-media, visual, artistic, or musical, for example). The form and substance of a non-textual honors thesis must conform to the rigorous regulations set out by the relevant department(s) and the Dean of the College.

**Additional Honors Requirements**

To be eligible for Honors, students will have earned an "A" in the majority of courses for the concentration.

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 CCSA 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 CCSA DUS by April 25:

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 CCSA DUS noting their willingness to advise on the thesis.

In addition, students must:

1. Enroll in a two-semester sequence of Independent Study, SAST 1970 or under a relevant department course code.
2. Designate a second reader by September 30 of the senior year. Second readers should also confirm their willingness to serve as a reader by sending an email to the CCSA DUS.
3. Be in regular contact with the thesis advisor about the progress of the project.
4. Present their research to the CCSA 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.

A complete penultimate draft of the thesis is due to both readers on April 1. A final draft that incorporates readers' comments is due back to the readers on April 15 of the student's 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 CCSA 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 statistics or 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 foundational courses 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. **Please note that only the required Calculus courses may be accepted with P/F grades. All other required courses must be taken for a grade.**

The program requires **thirteen** one-semester courses. The required courses are as follows:

**LEVEL I: Foundations in Mathematics - Calculus**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 0100</td>
<td>Introductory Calculus, Part I</td>
</tr>
<tr>
<td>MATH 0180</td>
<td>Intermediate Calculus</td>
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</table>

**LEVEL I - Foundations in Mathematics - Linear Algebra**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 0520</td>
<td>Linear Algebra</td>
</tr>
</tbody>
</table>

**Computing**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>APMA 0160 or CSCI 0040</td>
<td>Introduction to Scientific Computing</td>
</tr>
<tr>
<td></td>
<td>Introduction to Scientific Computing and Problem Solving</td>
</tr>
</tbody>
</table>

**Introduction to Statistical Thinking and Practice**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOC 1100</td>
<td>Introductory Statistics for Social Research</td>
</tr>
<tr>
<td>ECON 1620</td>
<td>Introduction to Econometrics</td>
</tr>
<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>EDUC 1110</td>
<td>Introductory Statistics for Education Research and Policy Analysis</td>
</tr>
</tbody>
</table>

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

- Clinical Trials Methodology
- Mathematical Statistics
- Health Economics
- Practical Data Analysis
- Recent Applications of Probability and
- Introduction to Programming for the Mind,
- Data Science
- Analysis of Lifetime Data
- Statistical Inference I
- Statistical Programming with R
- Market and Social Surveys
- Techniques of Demographic Analysis
- Computational Molecular Biology
- Applied Regression Analysis
- Statistical Methods for Spatial Data
- Computational Probability and Statistics
- Information Theory
- Recent Applications of Probability and

### LEVEL II - Core Courses in Theory and Data Analysis

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>APMA 1560</td>
<td>Statistical Inference I</td>
<td>2</td>
</tr>
<tr>
<td>or APMA 1655</td>
<td>Statistical Inference I</td>
<td></td>
</tr>
<tr>
<td>APMA 1660</td>
<td>Statistical Inference II</td>
<td></td>
</tr>
<tr>
<td>OR</td>
<td>MATH 1610 Probability</td>
<td></td>
</tr>
<tr>
<td>MATH 1620</td>
<td>Mathematical Statistics</td>
<td></td>
</tr>
</tbody>
</table>

### Introduction to Biostatistics

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHP 1510</td>
<td>Principles of Biostatistics and Data Analysis</td>
<td>1</td>
</tr>
<tr>
<td>OR</td>
<td>PHP 2510 Principles of Biostatistics and Data Analysis</td>
<td></td>
</tr>
</tbody>
</table>

### LEVEL III: Advanced Courses in Statistical Methods

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHP 1560</td>
<td>Statistical Programming in R</td>
<td>2</td>
</tr>
<tr>
<td>OR</td>
<td>PHP 2560 Statistical Programming with R</td>
<td></td>
</tr>
<tr>
<td>AND</td>
<td>PHP 1511 Applied Regression Analysis</td>
<td></td>
</tr>
<tr>
<td>OR</td>
<td>PHP 2511 Applied Regression Analysis</td>
<td></td>
</tr>
</tbody>
</table>

### Electives in Social Science and Biostatistics (Students must choose 2)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOC 1120</td>
<td>Market and Social Surveys</td>
<td></td>
</tr>
<tr>
<td>SOC 1340</td>
<td>Principles and Methods of Geographic Information Systems</td>
<td></td>
</tr>
<tr>
<td>SOC 2230</td>
<td>Techniques of Demographic Analysis</td>
<td></td>
</tr>
<tr>
<td>CSCI 1420</td>
<td>Machine Learning</td>
<td></td>
</tr>
<tr>
<td>CSCI 1810</td>
<td>Computational Molecular Biology</td>
<td></td>
</tr>
<tr>
<td>CSCI 1820</td>
<td>Algorithmic Foundations of Computational Biology</td>
<td></td>
</tr>
<tr>
<td>CSCI 1951A</td>
<td>Data Science</td>
<td></td>
</tr>
<tr>
<td>PHP 0850</td>
<td>Fundamentals of Epidemiology</td>
<td></td>
</tr>
<tr>
<td>PHP 2030</td>
<td>Clinical Trials Methodology</td>
<td></td>
</tr>
<tr>
<td>PHP 2120</td>
<td>Introduction to Methods in Epidemiologic Research</td>
<td></td>
</tr>
<tr>
<td>PHP 2200</td>
<td>Intermediate Methods in Epidemiologic Research</td>
<td></td>
</tr>
<tr>
<td>PHP 2515</td>
<td>Fundamentals of Probability and Statistical Inference</td>
<td></td>
</tr>
<tr>
<td>PHP 2520</td>
<td>Statistical Inference I</td>
<td></td>
</tr>
<tr>
<td>PHP 2530</td>
<td>Bayesian Statistical Methods</td>
<td></td>
</tr>
<tr>
<td>PHP 2550</td>
<td>Practical Data Analysis</td>
<td></td>
</tr>
<tr>
<td>PHP 2580</td>
<td>Statistical Inference II</td>
<td></td>
</tr>
<tr>
<td>PHP 2602</td>
<td>Analysis of Lifetime Data</td>
<td></td>
</tr>
<tr>
<td>PHP 2601</td>
<td>Linear Models</td>
<td></td>
</tr>
<tr>
<td>PHP 2604</td>
<td>Statistical Methods for Spatial Data</td>
<td></td>
</tr>
<tr>
<td>PHP 2610</td>
<td>Causal Inference and Missing Data</td>
<td></td>
</tr>
<tr>
<td>PHP 2620</td>
<td>Statistical Methods in Bioinformatics, I</td>
<td></td>
</tr>
<tr>
<td>APMA 1070</td>
<td>Quantitative Models of Biological Systems</td>
<td></td>
</tr>
<tr>
<td>APMA 1080</td>
<td>Inference in Genomics and Molecular Biology</td>
<td></td>
</tr>
<tr>
<td>APMA 1200</td>
<td>Operations Research: Probabilistic Models</td>
<td></td>
</tr>
<tr>
<td>APMA 1690</td>
<td>Computational Probability and Statistics</td>
<td></td>
</tr>
<tr>
<td>APMA 1710</td>
<td>Information Theory</td>
<td></td>
</tr>
<tr>
<td>APMA 1740</td>
<td>Recent Applications of Probability and Statistics</td>
<td></td>
</tr>
</tbody>
</table>

### Total Credits

- 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.

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### 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,
Students who declared their concentration prior to fall 2019 can find their concentration requirements here: https://bulletin.brown.edu/archive/2018-19/the-college/concentrations/taps/

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, dancing, 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 Theatre Arts track advisor, in order to discuss options that will best serve their interests.

TAPS 0700 Introduction to Theatre, Dance and Performance 1
One of the following:
TAPS 0220 Persuasive Communication 1
TAPS 0230 Acting 1
TAPS 0250 Introduction to Technical Theatre and Production 1
TAPS 1230 Global Theatre and Performance: Paleolithic to the Threshold of Modernity 1
TAPS 1240 Performance Historiography and Theatre History 1
TAPS 1250 Late Modern and Contemporary Theatre and Performance 1

Theatre 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.

TAPS 0700 Introduction to Theatre, Dance and Performance 1
Three of the following courses: 3
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 1280Y Issues in Performance Studies

Two primarily academic courses from within the Department with Performance Studies content to be selected with your advisor, such as (but not limited to):
TAPS 0210 Dancing the African Diaspora
TAPS 0350 Black Performance Theory
TAPS 1280N New Theories for a Baroque Stage
TAPS 1380 Mise en Scene
TAPS 1425 Queer Performance
TAPS 1630 Performativity and the Body: Staging Gender, Staging Race
TAPS 1640 Theatre and Conquest in Greater Mexico: From Cortes to NAFTA
TAPS 1690 Performance, Art, and Everyday Life
TAPS 2120 Revolution as a Work of Art

Two full-credit courses based in performance craft in either Dance, Acting, Directing, Playwriting, Speech, Design, Literary Arts, Visual Arts, Music, or Africana Studies approved by the concentration advisor.

Two additional courses in the academic study of performance and performance culture(s) from either within TAPS or throughout the University in consultation with the advisor.

Total Credits 10

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 0700 Introduction to Theatre, Dance and Performance 1

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

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
Techniques of the Body - two courses selected in consultation with an advisor, such as the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAPS 1230</td>
<td>Global Theatre and Performance: Paleolithic to the Threshold of Modernity</td>
</tr>
<tr>
<td>TAPS 1240</td>
<td>Performance Historiography and Theatre History</td>
</tr>
<tr>
<td>TAPS 1250</td>
<td>Late Modern and Contemporary Theatre and Performance</td>
</tr>
<tr>
<td>TAPS 1281W</td>
<td>Artists and Scientists as Partners</td>
</tr>
<tr>
<td>TAPS 1281Q</td>
<td>Introduction to Critical Dance Studies</td>
</tr>
<tr>
<td>TAPS 1330</td>
<td>Dance History: The 20th Century</td>
</tr>
<tr>
<td>TAPS 1425</td>
<td>Queer Performance</td>
</tr>
<tr>
<td>TAPS 1630</td>
<td>Performativity and the Body: Staging Gender, Staging Race</td>
</tr>
<tr>
<td>MUSC 1971</td>
<td>Digital Media and Virtual Performance</td>
</tr>
</tbody>
</table>

Design or Production - one course selected in consultation with an advisor from courses such as the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAPS 0310</td>
<td>Beginning Modern Dance</td>
</tr>
<tr>
<td>TAPS 0330</td>
<td>Mande Dance, Music and Culture</td>
</tr>
<tr>
<td>TAPS 0930C</td>
<td>The Actor's Instrument: Stage Movement for Actors and Directors</td>
</tr>
<tr>
<td>TAPS 1000</td>
<td>Intermediate Dance</td>
</tr>
<tr>
<td>TAPS 1310</td>
<td>Advanced Modern Dance</td>
</tr>
<tr>
<td>TAPS 1340</td>
<td>Dance Styles</td>
</tr>
<tr>
<td>TAPS 1341</td>
<td>Introduction to Ballet</td>
</tr>
<tr>
<td>TAPS 1281E</td>
<td>Directing Theory and Practice</td>
</tr>
<tr>
<td>TAPS 1320</td>
<td>Choreography</td>
</tr>
<tr>
<td>TAPS 1350</td>
<td>Dance Performance and Repertory &amp; TAPS 1360</td>
</tr>
<tr>
<td>TAPS 1370</td>
<td>New Works/World Traditions</td>
</tr>
</tbody>
</table>

Directing/Compositional Strategies - two courses selected in consultation with an advisor from courses such as the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAPS 0320</td>
<td>Dance Composition</td>
</tr>
<tr>
<td>TAPS 0360</td>
<td>Viewpoints Technique: The Moving Body in Relation to Time, Space, and Ensemble</td>
</tr>
<tr>
<td>TAPS 1281F</td>
<td>Introduction to Set Design</td>
</tr>
<tr>
<td>TAPS 1281A</td>
<td>Director/Designer Collaborative Studio</td>
</tr>
<tr>
<td>TAPS 1281M</td>
<td>Introduction to Costume Construction</td>
</tr>
<tr>
<td>TAPS 1300</td>
<td>Advanced Set Design</td>
</tr>
</tbody>
</table>

Design or Production - one course selected in consultation with an advisor from courses such as the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAPS 0250</td>
<td>Introduction to Technical Theatre and Production</td>
</tr>
<tr>
<td>TAPS 0260</td>
<td>Stage Lighting</td>
</tr>
<tr>
<td>TAPS 1100</td>
<td>Stage Management</td>
</tr>
<tr>
<td>TAPS 1280F</td>
<td>Introduction to Set Design</td>
</tr>
<tr>
<td>TAPS 1281A</td>
<td>Director/Designer Collaborative Studio</td>
</tr>
<tr>
<td>TAPS 1281M</td>
<td>Introduction to Costume Construction</td>
</tr>
<tr>
<td>TAPS 1300</td>
<td>Advanced Set Design</td>
</tr>
</tbody>
</table>

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, etc.), 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. 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. 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 be a critical, written work based in research relative to that artwork. For plays submitted for honors, the essay should accompany the play, reporting on the research and the process of writing, though the play itself counts as the substantive written work. 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 sciences, 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 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 Essential Statistics
- APMA 1650 Statistical Inference I
- APMA 1660 Statistical Inference II
- CLPS 0900 Statistical Methods
- ECON 1620 Introduction to Econometrics
- EDUC 1110 Introductory Statistics for Education Research and Policy Analysis
- 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 0100N City Novels
- 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
- EDUC 1650 Policy Implementation in Education
- HIAA 1850H Berlin: Architecture, Politics and Memory
- HIAA 1910A Providence Architecture
- SOC 0310 Theory and Practice of Engaged Scholarship (ESP Seminar)
- 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 Since 1850: Religion, Politics, 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
- URBN 1870Z Housing Justice
- URBN 1871B Berlin: Global Metropolis (1945-2020)
- URBN 1941 How to Shape a City: An Introduction to Real Estate Development

**Complementary Curriculum (Total of 2 courses required):**

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 Chapin 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

For up-to-date course information please visit Courses@Brown.edu (https://cab.brown.edu).
### Concentration Program Requirements

**Concentration Requirements:**

1. **VISA 0100** Studio Foundation (Prerequisite for all upper-level studio courses)

2. 2 of the following 5 discipline-based foundation courses are required.

   - **VISA 0120** Foundation Media (This course is a prerequisite for upper-level Media courses such as New Genre and Video Art)
   - **VISA 0130** Sculpture Foundation
   - **VISA 0140** Photography Foundation
   - **VISA 0150** Digital 2D Foundation
   - **VISA 0160** Painting Foundation

3. 5 additional upper level studio courses are required. A minimum of three elective studio courses must be taken in the Brown Visual Art Department

4. **HIAA 0010** A Global History of Art and Architecture

5. **HIAA 0550** Constructing the Eternal City: Popes and Priests: Japanese Urban Culture in the Nineteenth-Century Paris

6. **HIAA 0550** Constructing the Eternal City: Popes and Pilgrims in Early Modern Rome

7. **HIAA 0550** Renaissance Venice and the Veneto

8. **HIAA 0550** Contemporary American Urbanism: City Design and Planning, 1945-2000

9. **HIST 1140** Samurai and Merchants, Prostitutes and Priests: Japanese Urban Culture in the Early Modern Period

10. **HIST 1741** Capitalism, Land and Water: A World History: 1848 to the present

11. **HIST 1961B** Cities and Urban Culture in China

12. **HIST 1965A** City as Modernity-Popular Culture, Mass Consumption, Urban Entertainment in Nineteenth-Century Paris

13. **HIST 1967R** History of Rio de Janeiro

14. **HIST 1979J** London: 1750 to the Present

15. **HIST 1979L** Urban History of Latin America

16. **HIST 1980T** Modernity, Jews, and Urban Identities in Central Europe (JUDS 1718)

17. **IAPA 1700A** Program Evaluation

18. **IAPA 1803E** Social Entrepreneurship

19. **ITAL 1580** Word, Image and Power in Early Modern Italy

20. **JAPN 0910B** Japanese Cities: Tokyo and Kyoto

21. **JUDS 1718** Modernity, Jews, and Urban Identities in Central Europe

22. **POL 1760** Infrastructure Policy

23. **POL 1824D** Power and Prosperity in Urban America

24. **RUSS 1440** Imagining Moscow: Utopia and Urban Spaces in 20th-Century Russian Culture

25. **STS 1701Q** The Fate of the Coast

26. **SOC 0130** American Heritage: Democracy, Inequality, and Public Policy

27. **SOC 1270** Race, Class, and Ethnicity in the Modern World

28. **SOC 1540** Human Needs and Social Services

29. **SOC 1760** Infrastructure Policy

30. **VISA 0100** Studio Foundation (Prerequisite for all upper-level studio courses)

31. **VISA 0120** Foundation Media (This course is a prerequisite for upper-level Media courses such as New Genre and Video Art)

32. **VISA 0130** Sculpture Foundation

33. **VISA 0140** Photography Foundation

34. **VISA 0150** Digital 2D Foundation

35. **VISA 0160** Painting Foundation

### Additional Requirements

- 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.

- The courses provide opportunities to undertake research or fieldwork projects and all qualify as "capstone" experiences.

- 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

Candidates for Honors must have above average grades and shall apply for this distinction in writing to the Director of the Program by the middle of the second semester of their junior year. They shall include a cover letter with a brief statement of the intended research proposal as well as the name of the member of the Urban Studies faculty who would serve as their advisor and with whom they must work closely. Twelve courses are required for Honors concentrator, two in addition to the ten courses required for a standard program. During the Fall and Spring of the senior year, honors candidates must complete two additional courses beyond the ten courses required by the regular 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, and digital imaging. Courses in art history combine with these to frame the direction of the concentrator's work and to develop his or her critical thinking skills. Students are encouraged to cultivate an informed and thoughtful individual perspective. Students in the Visual Arts department enjoy cutting-edge facilities and a knowledgeable faculty. These two resources inspire creativity and pleasure in our concentrators while they 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. All Visual Art (VISA) courses are graded S/NC (https://www.brown.edu/academics/college/degree/policies/grade-options).

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

HIAA 0801  Art After ‘68
or HIAA 0810  20th Century Sculpture
or HIAA 0870  20th Century British Art: Edwardian to Contemporary

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).