Foreword

Brown University is a leading Ivy League institution and the only major research university in the nation where undergraduates are the architects of their own course of study. Brown is distinguished by its unique undergraduate academic program, a world-class faculty, outstanding graduate and medical students, and a tradition of innovative and rigorous multidisciplinary study.

The University’s mission—to serve the community, the nation, and the world by educating and preparing students (in the words of the College charter) to “discharge the offices of life with usefulness and reputation”—is fulfilled through a strong partnership of students and teachers.

The seventh oldest university in America, Brown was established in 1764 as Rhode Island College in the town of Warren, Rhode Island, and enrolled its first students in 1765. In 1770 the College moved to its present location, and in 1804 it was renamed Brown University to honor a $5,000 donation from local merchant Nicholas Brown. Today the University’s main campus covers nearly 140 acres on a historic residential hill overlooking downtown Providence, a vibrant city of some 170,000 people and the capital of Rhode Island.

Brown draws men and women from all over the United States and many other countries. Distinguished by their academic excellence, creativity, self-direction, leadership, and enthusiasm for a collaborative style of learning, these students work in partnership with a faculty known for its prize-winning multidisciplinary scholarship and dedication to teaching. By providing a rich undergraduate experience together with strong graduate and medical programs, the University fosters internal and external discovery at every level of the academic enterprise.

Brown is internationally known for its dynamic undergraduate curriculum, implemented by faculty vote in 1969. Undergraduates must pass 30 courses and complete the requirements for a concentration, or major, in order to receive a bachelor’s degree. The curriculum does not require distribution or core courses outside the concentration. More than 2,000 undergraduate courses support more than 100 concentrations, many of them interdisciplinary, and a wide variety of independent studies.

At the heart of the Brown curriculum are three basic principles: that students are active participants in learning; that acquiring analytical and critical skills is as important as mastering factual knowledge; and that learning requires opportunities for experimentation and cross-disciplinary synthesis.

The Graduate School at Brown is a national leader in the creation and dissemination of new knowledge. In 2003, Brown celebrated the centennial of the Graduate Department, formally established in 1903 to confer advanced degrees.

Brown Medical School, which awarded its first M.D. degrees in 1975, is renowned for innovation in medical education and for its programs in family medicine and primary care. The Medical School now enrolls some 300 students, most of whom are accepted through Brown’s unique Program in Liberal Medical Education (PLME), which combines undergraduate study with professional studies in medicine.

Fortified by vigorous leadership, prudent planning, and new ideas, the University has launched an exciting program for academic enrichment that is enlarging its faculty by 100 members over the next five to ten years, improving support for graduate students, and investing in libraries, information technology, and academic facilities. As part of this extensive program of improvements, the University instituted a need-blind undergraduate
admission process to ensure all worthy applicants access to the University, regardless of their ability to pay.

***

Brown University is accredited by the New England Association of Schools and Colleges. In addition, the Medical School is accredited by the Liaison Committee on Medical Education. The Division of Engineering has received accreditation from the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology for its bachelor of science programs in biomedical, civil, chemical, computer, electrical, materials, and mechanical engineering.
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Mission Statement

The mission of Brown University is to serve the community, the nation, and the world by discovering, communicating, and preserving knowledge and understanding in a spirit of free inquiry, and by educating and preparing students to discharge the offices of life with usefulness and reputation. We do this through a partnership of students and teachers in a unified community known as a university-college.
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http://www.brown.edu/Administration/Registrar/calendar.html
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HENDRIK J. GERRITSEN, Professor Emeritus of Physics
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ABBOTT GLEASON, Professor Emeritus of History
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MAURICE GLICKSMAN, Professor Emeritus of Engineering
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GEORGE E. GOSLOW, JR, Professor Emeritus of Medical Science
STEPHEN RICHARDS GRAUBARD, Professor Emeritus of History
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DAVID S. GREER, Professor Emeritus of Community Health
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JEROME H. WEINER, Professor Emeritus of Engineering
JOHN WERMER, Professor Emeritus of Mathematics
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PETER JOCelyn WESTERVELT, Professor Emeritus of Physics
LEA EVERARD WILLIAMS, Professor Emeritus of History
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JAMES J. WRENN, Professor Emeritus of East Asian Studies
WILLIAM F. WYATT, JR, Professor Emeritus of Classics
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MARISA QUINN, Assistant to the President
RICHARD R. SPIES, Executive Vice President for Planning, Senior Advisor to the President
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JAMES TILTON, Director of Financial Aid
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RAJIV VOHLRA, Dean of the Faculty
ALBERT A. DAHLBERG, Secretary of the University
Office of the President

RUTH J. SIMMONS, President
REBECCA G. BARNES, Director of Strategic Growth
ALBERT A. DAHLBERG, Secretary of the University
BRENDAN C. MCNALLY, Special Assistant to the Executive Vice President for Planning
CATHERINE N. PINCINCE, Associate Secretary of the Corporation
MARISA QUINN, Assistant to the President
RICHARD RAYMOND SPIES, Executive Vice President for Planning/Senior Advisor to the President
SARA C. TORTORA, Executive Secretary and Special Assistant to the President

Provost

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KATHERINE BERGERON, Dean of the College
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STEVEN T. CARMODY, Manager
JO-ANN CONKLIN, Director
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ROSEMARY L. CULLEN, Senior Scholarly Resources Librarian
MAUREEN CURLEY, President of the Campus Compact
PATRICIA J. DODD, Director of Personnel and Labor Relations
FLORENCE KELL DOKSANSKY, Associate University Librarian
NANCY R. DUNBAR, Associate Provost
ROBERT P. EMLEN, University Curator
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SUSAN A. FARNUM, Interim Director of Financial Aid
SAMUEL G. FULCOMER, Director of Center for Advanced Scientific Computing and Visualization
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SHEPARD KRECH III, Director
STEVEN BENEDICT LAVALLEE, Co-Leader of Gateway Services Department
GEORGE B. LORIOT, Associate Director
LUANN CSERR, ESQ., Director of Intellectual Property
JAMES S. MILLER, Dean of Admission
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CONNIE J. SADLER, Director of Information Technology Security
MARISA J. SCHASEL, Associate Director
BARBARA L. SCHULZ, Head of Facilities of Business Services
MARK E. SHELTON, Leader of Systems and Media Services Department
ERIC C. SHOAF, Leader of Preservation Services Department
MELISSA A. SKINNELL, Associate Director of Business and Financial Systems
KEVIN P. SMITH, Deputy Director and Chief Curator
JOHN SPADARO, Director, Systems and Services
BARBARA STALLINGS, Director
SHELLEY STEPHENSON, Assistant Provost
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SAMUEL ALLEN STREIT, Leader of Scholarly Resources Department
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PERRY ASHLEY, Associate Dean of the College
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KENDALL W. BROSTUEN, Director, Office of International Programs
STEVEN R. CORNISH, Associate Dean of the College
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KATHLEEN J. MC SHARRY, Associate Dean of the College
ROGER H. NOZAKI, Associate Dean and Director, Swearer Center for Public Service
GRE TCHEN M. PETERSON, Manager, Curricular Resources & Academic Support
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VALERIE PETT I WILSON, Associate Dean of the Graduate School

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ANNE CUSHING-BRES CIA, Assistant Dean of Medicine (Advising)
MICHELE G. CYR, Associate Dean for Women in Medicine and Graduate Medical Education and Director, Division of General Internal Medicine
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RICHARD DOLLASE, Director of Curriculum Affairs
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LARRY H. HULSEBOS, Assistant Director Animal Care Facility
JULIANNE IP, Associate Dean of Medicine
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MARIA SULLIVAN, Director of Continuing Medical Education
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MICHELLE WONG, Accounting Manager
LARRY ZEIBER, Senior Associate Dean for Medical School Advancement

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SERENA EISENBERG, Associate University Chaplain
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PHILIP D. ESTES, Head Coach of Football
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MICHAEL KENNEY, Planner/Estimator
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EVE FORMISANO, Director of Alumni Services and Career Programs
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JAMES ROEHM, Regional Development Director
SHARON J. ROSEN, Regional Development Director
JILL D. ROSSI, Director of Alumni Events
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ROBERT F. WHELAN, Director of Parents Leadership Program
WADE WILKS, Senior Planned Giving Officer
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The following is a list, in alphabetical sequence, of all officers of instruction holding appointments with a rank of lecturer or above, by action of the Corporation of Brown University. This information is provided by the Dean of Faculty Office. Titles given are those held as of February 1, 2007.

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MARTIN RAYMOND WEST, Assistant Professor of Education
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ROBERT J. WELLAKE, Professor Emeritus of Psychiatry and Human Behavior
EDWARD WESTRICK, Clinical Assistant Professor of Family Medicine
JUDITH B. WESTRICK, Clinical Instructor of Pediatrics
TERRIE G. WETLE, Professor of Community Health
TERRIE TODD WETLE, Professor of Medical Science
PATRICK WEYER, Clinical Assistant Professor of Medicine
NICOLAS WEY-GOMEZ, Assistant Professor of Hispanic Studies
ALBERT K. WEYMAN, Clinical Assistant Professor of Surgery
JAMES J. WHALEN, Clinical Assistant Professor of Psychiatry and Human Behavior
RICHARD P. WHALEN, Clinical Assistant Professor of Psychiatry and Human Behavior
GARY G. WHARTON, Clinical Assistant Professor of Obstetrics and Gynecology
KRISTI A. WHARTON, Professor of Medical Science
CAROL A. WHEELER, Clinical Associate Professor of Obstetrics and Gynecology
EDWARD A. WHEELER, JR., Clinical Assistant Professor of Medicine
ELIZABETH E. WHEELER, Assistant Professor (Clinical) of Psychiatry and Human Behavior
WILLIAM M. WHELIHAN, Clinical Associate Professor of Psychiatry and Human Behavior
KATHERINE CURTIS J. WHITE, Assistant Professor of Sociology
MICHAEL JOSEPH WHITE, Professor of Sociology
RUSSELL E. WHITE, Clinical Associate Professor of Surgery
JESSICA A. WHITELEY, Adjunct Assistant Professor of Psychiatry and Human Behavior
JESSICA HOPE WHITESIDE, Assistant Professor of Geological Sciences
ESTHER WHITFIELD, Assistant Professor of Comparative Literature
ANNIE J. WIART, Senior Lecturer in French Studies
JOHN EDGAR WIDEMAN, Professor of Africana Studies and English
BENJAMIN DANIEL WIELAND, Tamarkin Assistant Professor of Mathematics
DOREEN L. WIGGINS, Clinical Assistant Professor of Obstetrics and Gynecology
BRIAN D. WILEY, Clinical Instructor of Emergency Medicine
CAROLINE S. WILKEL, Clinical Assistant Professor of Dermatology
JOANNE E. WILKINSON, Clinical Assistant Professor of Family Medicine
DAVID M. WILLIAMS, Assistant Professor of Psychiatry (Research)
DAVID O. WILLIAMS, Professor of Medicine
DONALD C. WILLIAMS, Clinical Instructor of Community Health
KATHERINE S. WILLIAMS, Clinical Instructor of Family Medicine
KENNETH A. WILLIAMS, Clinical Associate Professor of Emergency Medicine
ROBERT R. WILLIAMS, Clinical Associate Professor of Obstetrics and Gynecology
PAUL GREGORY WILLIARD, Professor of Chemistry
ERIN CRESSIDA WILSON, Professor of English
JEFFREY M. WILSON, Clinical Instructor of Family Medicine
JULIE M. WILSON, Clinical Assistant Professor of Family Medicine
VALERIE P. WILSON, Clinical Professor of Community Health
JANET L. WILTERDINK, Clinical Associate Professor of Clinical Neuroscience
INGA CROSMAN WIMMERS, Professor of French Studies (Research)
JOHN P. WINCLE, Clinical Professor of Psychiatry and Human Behavior
EDWARD J. WING, Professor of Medicine
RENA R. WING, Professor of Psychiatry and Human Behavior
RUDOLF MATTHIAS WINKES, Professor of Art and Classical Archaeology
MARION F. WINKLER, Senior Teaching Associate of Surgery
TODD E. WINKLER, Associate Professor of Music
LISA WINTERBOTTOM, Clinical Assistant Professor of Medicine
RONALD M. WINTROB, Clinical Professor of Psychiatry and Human Behavior
JON D. WITMAN, Associate Professor of Biology
EDWARD G. WITTELS, Associate Professor of Medicine
PATRICIA N. WOLD, Clinical Assistant Professor of Psychiatry and Human Behavior
JOHN A. WOLFE, Clinical Assistant Professor of Psychiatry and Human Behavior
IVAN S. WOLFSON, Clinical Assistant Professor of Family Medicine
WILLIAM WOLOVICH, Professor of Engineering (Research)
ARTHUR W.Y. WONG, Clinical Instructor of Surgery
KENNETH K. WONG, Professor of Education, Professor of Public Policy, Professor of Political Science
GORDON STEWART WOOD, Professor of History
MARK D. WOOD, Visiting Professor of Community Health
HAROLD A. WOODCOME, JR., Clinical Associate Professor of Surgery
COURTNEY A. WOODFIELD, Assistant Professor of Diagnostic Imaging
MARGARET S. WOOL, Clinical Assistant Professor of Family Medicine
ROBERT H. WOOLARD, Professor of Emergency Medicine
KAREN L. WOOLFALL-QUINN, Clinical Instructor of Medicine
HUGH WOOLVERTON, III, Clinical Assistant Professor of Family Medicine
BILLY R. WOOTEN, Professor of Psychology
DAVID S. WRENN, Assistant Professor of Pathology and Lab Medicine (Research)
CAROLYN D. WRIGHT, Professor of English
JACQUES C. WRIGHT, Associate Professor of Psychology
SARA A. WRISTON, Teaching Associate of Obstetrics and Gynecology
CHUANG-KUO WU, Assistant Professor of Clinical Neuroscience
EDWARD H. WU, Assistant Professor (Clinical) of Medicine
HAIWEI WU, Research Associate of Community Health
KE-YING WU, Research Associate of Pediatrics
TONY C. WU, Clinical Instructor of Medicine
WEN-CHIH H. WU, Assistant Professor of Medicine
ZHIIJIN WU, Assistant Professor of Community Health
DONNA M. WULFF, Associate Professor of Religious Studies
MICHAEL B. WYATT, Assistant Professor of Geological Sciences
YA-GUANG XI, Research Associate of Medicine
GANG XIAO, Professor of Physics, Professor of Engineering
HAIYAN XU, Assistant Professor of Medicine
ISRAEL YAAR, Associate Professor of Clinical Neuroscience
NAOHIRO YAHO, Research Associate of Pediatrics
ALI YALCINDAG, Assistant Professor of Pediatrics
KIKUKO YAMASHITA, Associate Professor of East Asian Studies
XU YANG, Research Associate of Orthopaedics
ZHONGFA YANG, Instructor (Research) of Medicine
ANGELITO F. YANGO, JR., Assistant Professor of Medicine
RONALD A. YANKEE, Professor Emeritus of Medicine
GEORGE S. YAP, Assistant Professor of Medical Science
YVETTE E. YATCHMINK, Associate Professor (Clinical) of Pediatrics
PATRICIA YBARRA, Assistant Professor of Theatre, Speech, and Dance
SHIRLEY YEN, Assistant Professor of Psychiatry and Human Behavior (Research)
MADHAVI N. YERNEKI, Clinical Instructor of Medicine
SEE-CHEN YING, Professor of Physics
DAVID C. YOBURN, Clinical Associate Professor of Medicine
PAUL C. YODICE, Associate Professor of Surgery
DON C. YOO, Assistant Professor of Diagnostic Imaging
KATHLEEN C. YORKS, Teaching Associate of Obstetrics and Gynecology
CAROLYN TE YOUNG, Clinical Assistant Professor of Pathology and Laboratory Medicine
DIANE D. YOUNG, Clinical Assistant Professor of Psychiatry and Human Behavior
MARK R. YOUNG, Clinical Assistant Professor of Family Medicine
ZHENG LONG YUAN, Visiting Assistant Professor of Pathology and Laboratory Medicine
AUGUST ZABBO, Associate Professor of Surgery
JEFFREY R. ZACK, Clinical Instructor of Emergency Medicine
NADAH B. ZAFAR, Clinical Assistant Professor of Emergency Medicine
NAJAM A. ZAIDI, Assistant Professor (Clinical) of Medicine
AMINADAV ZAKAI, Clinical Assistant Professor of Psychiatry and Human Behavior
NICKOLAS D. ZALLER, Instructor (Research) of Medicine
MOHAMMED K. ZAMAN, Clinical Assistant Professor of Psychiatry and Human Behavior
ROBERT ZAMENHOF, Adjunct Professor of Radiation Oncology
VAZIRA FAZILA-YACOOBALI ZAMINDAR, Assistant Professor of History
DOMINICK ZANGARI JR., Clinical Assistant Professor of Surgery
RAYMOND P. ZARLENGO, Clinical Instructor of Pediatrics
ALEXANDER ZASLAVSKY, Associate Professor of Engineering, Associate Professor of Physics
VLADISLAV ZAYAS, Clinical Instructor of Clinical Neuroscience
SIGALIT ZCHUT, Research Associate of Pediatrics
STANLEY B. ZDONIK, JR., Professor of Computer Science
KIMBERLY A. ZELLER, Clinical Assistant Professor of Family Medicine
CATHERINE WILKINSON ZERNER, Professor of Art
MARK ZERVAS, Assistant Professor of Molecular Biology, Cell Biology and Biochemistry
CUNXIAN ZHANG, Assistant Professor of Pathology and Laboratory Medicine
MEIQING ZHANG, Senior Lecturer in East Asian Studies
PENG ZHANG, Research Associate of Medicine
WEIHONG ZHANG, Research Associate of Medicine
TING ZHAO, Assistant Professor of Pediatrics (Research)
SU ZHENG, Assistant Professor of Pathology and Laboratory Medicine
ANATOLY ZHITKOVICH, Associate Professor of Pathology and Laboratory Medicine
RASHID ZIA, Assistant Professor of Engineering
JAMES W. ZIEGLER, Assistant Professor (Clinical) of Pediatrics
ROBERT J. ZIELINSKI, Clinical Assistant Professor of Psychiatry and Human Behavior
RICHARD J. ZIENOWICZ, Associate Professor of Surgery
SALLY ZIERLER, Professor of Community Health and Medical Science
ANITA L. ZIMMERMAN, Professor of Medical Science
MARK ZIMMERMAN, Associate Professor of Psychiatry and Human Behavior
BERNARD ZIMMERMANN, III, Adjunct Associate Professor of Medicine
MATTHEW BEN ZIMMT, Professor of Chemistry
BRIAN J. ZINK, Professor of Emergency Medicine
STEPHEN H. ZINNER, Adjunct Professor of Medicine
CARON L. ZLOTNICK, Associate Professor of Psychiatry and Human Behavior
LIJUN ZOU, Research Associate of Pediatrics
ALAN S. ZUCKERMAN, Professor of Political Science and Judaic Studies
JOHN F. ZWETCHKENBAUM, Clinical Instructor of Medicine

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**Named Professorships**

ELI Y. ADASHI, Frank L. Day Professor of Biology
EDWARD JAMES AHEARN, University Professor
ENGIN DENIZ AKARLI, Joukowsky Family Distinguished Professor of Modern Middle Eastern History
SUSAN ELLEN ALCOCK, Joukowsky Family Professor in Archaeology
JAMES P. ALLEN, Charles Edwin Wilbour Professor of Egyptology
NANCY ARMSTRONG, Nancy Duke Lewis Professor
THOMAS FRANCIS BANCHOFF, Royce Family Professor in Teaching Excellence
OMER BARTOV, John P. Birkeland Distinguished Professor of European History
REDA BEN SMAIA, University Professor
DAVID M. BESSEL, Sidney A. Fox and Dorothea Doctors Fox Professor of Ophthalmology and Visual Sciences
MARK DAVID BERTNESS, Robert P. Brown Professor of Biology
TIMOTHY BEWES, William A. Dyer, Jr. Assistant Professor in the Humanities
THOMAS J. BIERSTEKER, Henry R. Luce Professor of Transnational Organization and Professor of Political Science
CHRISTINE ANNE BIRON, Esther Elizabeth Brintzenhoff Professor of Medical Science
SHEILA ELLEN BLUMSTEIN, Albert D. Mead Professor
BARRYMORE ANTHONY BOGUES, Royce Family Professor in Teaching Excellence
SHEILA BONDE, Royce Family Professor in Teaching Excellence
GEORGE HERBERT BORTS, George S. and Nancy B. Parker Professor of Economics
CLYDE L. BRIANT, Otis Everett Randall University Professor
MARCY BRINK-DANAN, Dorot Assistant Professor of Judaic Studies
MARI JO BUHLE, William R. Kenan, Jr., University Professor
STUART BURROWS, Robert Gales Noyes Assistant Professor in the Humanities
MELANI CAMMETT, Kutayba Alghanim Assistant Professor of Political Science and Economics
DAVID E. CANE, Vernon K. Kriebel Professor of Chemistry
UGUR CETINTEMEL, Manning Assistant Professor
EUGENE CHARNIAK, University Professor of Computer Science
QIAN CHEN, Michael G. Ehrlich, M.D. Professor of Orthopedic Research
REY CHOW, Andrew W. Mellon Professor of the Humanities
HOWARD PETER CHUDACOFF, George L. Littlefield Professor in American History
ASHCROFT MILLER CHURCH, Edgar J. Marston Professor of Psychology
WILLIAM G. CIOFFI, JR., J. Murray Beardsley Professor in Surgery
RODNEY JAMES CLIFTON, Rush C. Hawkins University Professor
BARRY WILLIAM CONNORS, L. Herbert Ballou University Professor
LEON N. COOPER, Thomas J. Watson, Sr., Professor of Science
WILLIAM A. CURTIN, Elisha Benjamin Andrews Professor
CONSTANTINE MICHAEL DAIFERMO, Alumni-Alumnae University Professor
JIMMIE D. DOLL, Jesse H. and Louisa D. Sharpe Metcalf Professor of Chemistry
JOHN P. DONOHUE, Henry Merritt Wriston Professor
WALTER SIDNEY FELDMAN, John Hay Professor of Bibliography
THALIA FIELD, Joukowsky Family Assistant Professor
KAREN M. FISCHER, Royce Family Professor in Teaching Excellence
CHARLES WILLIAM FORNARA, David Benedict Professor of Classics
DONALD W. FORSYTH, James Manning Professor
LAMBERT BEN FREUND, Henry Ledyard Goddard University Professor
AARON L. FRIEDMAN, Sylvia Kay Hassenfeld Professor of Pediatrics
HUAIJIAN GAO, Walter H. Annenberg Professor
CYNTHIA T. GARCIA COLL, Charles Pitts Robinson and John Palmer Barstow Professor
STUART ALAN GEMAN, James Manning Professor
SUSAN ALEXANDRA GERBL, George Eggleston Professor of Biochemistry
DAVID GOTTLEIB, Ford Foundation Professor
STEVEN PETER HAMBURG, Ittleson Associate Professor of Environmental Studies
MICHAEL STEVEN HARPER, University Professor
TIMOTHY JAMES GLADSTONE HARRIS, Munroe-Goodwin-Wilkinson Professor of European History
EDWARD HAWROT, Upjohn Professor of Pharmacology
JAMES W. HEAD, LL.D., Louis and Elizabeth Scherck Distinguished Professor of Geological Sciences
JOHN VERNON HENDERSON, Eastman Professor of Political Economy
DENNIS P. HOGAN, Robert E. Turner Distinguished Professor of Population Studies
PETER WILKINSON HOWITT, Lyn Crost Professor of Social Sciences
SORIN ISTRAIL, Julie Nguyen Brown Professor in Computational and Mathematical Sciences
CARL F. KAESTLE, University Professor
DAVID I. KERTZER, Paul R. Dupee, Jr., University Professor of Social Science
JAEGWON KIM, William Herbert Perry Faunce Professor of Philosophy
BRIAN G. KNIGHT, Mary Teft and John Hazen White, Sr. Assistant Professor of Public Policy and Economics
DAVID KONSTAN, John Rowe Workman Distinguished Professor of Classics
MICHAEL JOHN KOSTERLITZ, Harrison E. Farnsworth Professor of Physics
ARTHUR LANDY, University Professor
ROSS ERIC LEVINE, Harrison S. Kravis University Professor
STEVE LICHTENBAUM, Roland George Dwight Richardson University Professor
PHILIP LIEBERMAN, Fred M. Seed Professor of Cognitive and Linguistic Sciences
GLENN CARTMAN LOURY, Merton P. Stoltz Professor of the Social Sciences
JOHN JOSEPH DOUGLAS MALLET-PARET, George Ide Chase Professor of the Physical Sciences
HUMPHREY J. MARIS, George I. Chase Professor of the Physical Sciences, Hazard Professor of Physics
KEVIN MCLAUGHLIN, Nicholas Brown Professor of Oratory and Belles Lettres
RACHEL A. MORELLO FROSH, Robert and Nancy Carney Assistant Professor of Community Health and Environmental Studies
DAVID MUMFORD, University Professor
ALAN NEEDLEMAN, Florence Pierce Grant University Professor
KAREN ALISON NEWMAN, University Professor
ARTO VEIKKO NURMIKKO, L. Herbert Ballou University Professor
SAUL MITCHELL OLYAN, Samuel Ungerleider, Jr. Professor of Judaic Studies
MARION ORR, Frederick Lippitt Professor of Public Policy
MICHAEL A. PARADISO, Sidney A. Fox and Dorothea Doctors Fox Professor of Ophthalmology and Visual Sciences
WARREN L. PRELL, Henry L. Doherty Professor of Oceanography
FRANCO P. PREPARATA, An Wang Professor of Computer Science
MICHAEL C. J. PUTNAM, W. Duncan MacMillan II Professor of Classics
KURT A. RAALFAUB, David Herlihy University Professor and Royce Family Professor in Teaching Excellence
PIERRE SAINT-AMAND, Francis Wayland Professor
OSVALDO ESTEBAN SALA, Sloan Lindemann and George Lindemann, Jr. Distinguished Professor in Environmental Studies
JOHANNA M. SCHMITT, Stephen T. Olney Professor in Natural History
JOHN MICHAEL SEDIVY, Hermon C. Bumpus Professor in Biology
DANIEL JORDAN SMITH, Stanley J. Bernstein Assistant Professor in the Social Sciences
DAVID MARC SOBEL, Stephen Robert Assistant Professor
ERNEST SOSA, Romeo Elton Professor of Natural Theology
MARCUS B. SPRADLIN, Manning Assistant Professor
MICHAEL PHILIP STEINBERG, Barnaby Conrad and Mary Critchfield Keeney Professor of History
RICHARD MARK STRATT, Newport Rogers Professor in Chemistry
WALTER ALEXANDER STRAUSS, L. Herbert Ballou University Professor
MICHAEL J. TARR, Sidney A. Fox and Dorothea Doctors Fox Professor of Ophthalmology and Visual Sciences
ANDRIES VAN DAM, Thomas J. Watson Jr. University Professor of Technology and Education
Nelson Harry Vieira, University Professor
Paula Vogel, Adele Kellenberg Seaver ’49 Professor of Creative Writing
Rajiv Vohra, Ford Foundation Professor
Anastasia Volovich, Richard and Edna Salomon Assistant Professor
Arnold Louis Weinstein, Edna and Richard Salomon Distinguished Professor
Darrell M. West, Happy and John Hazen White Professor of Public Policy
John Edgar Wideman, Asa Messer Professor
Edward Joseph Wing, Joukowsky Family Professor of Medicine
Kenneth K. Wong, Walter and Leonore Annenberg Professor of Education Policy
Gordon Stewart Wood, Alva O. Way University Professor
Carolyn D. Wright, Israel J. Kapstein Professor of English
George S. Yap, Manning Assistant Professor
Mark Zervas, Manning Assistant Professor
General Regulations

Course Registration and Enrollment

General Information

Instructions about enrollment will be sent 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 (e.g., course change permits, concentration forms, etc.) are official university documents. Any falsification of signatures or other tampering with such forms constitutes a violation of the Academic Code.

Enrollment Without Academic Credit

Auditing. An auditor is a student who is registered in a course without credit 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.

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. A tentative grade is given at the end of the first semester in year courses (indicated by a dash between course numbers); at the end of the second semester examinations in such courses cover the work of the two semesters, and a final grade for both is assigned at that time.

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. 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 transcript.

1. Courses may be designated to be graded on a 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 I 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 (forms for this purpose are available from the registrar’s office). Unless an earlier date is specified by the instructor, grades of I must be made up as follows: for Semester I, by midsemester of Semester II; for Semester II, by the first day of Fall semester. Extensions beyond these dates for any period of time up to but no more than one year from the end of the 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 I 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 will assign a grade of ABS. If the absence from the examination is excused by the dean, the student will be permitted to take a Special Examination. The Special Examination will be administered by 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.

4. A grade of I, ABS will be assigned if appropriate and will be resolved in accordance with the provisions of No. 3 and No. 4 above.

Grade Requirements for Advanced Degrees. A minimum grade of either Satisfactory or C in a 100 or 200 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 1–99); 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 100-level course and an E is noted on the transcript. This provision for extra work does not apply to courses of the level of 1–99 taken for graduate credit by students in the master of medical science or Medical School programs.

Distinction Checks. When grading students, instructors are requested to designate those students whose academic performance in the course merits consideration at the appropriate time for the awarding of the Bachelor’s degree magna cum laude by submitting the grade “with distinction”. This information is included in the grading information that serves as the basis for the determination of the top 20% of the class who are thus eligible to be awarded the degree magna cum laude. This information will be made available to the student upon request but will not be entered onto the student’s official transcript and will not be released outside the university.

Course Performance Reports. Students, regardless of grade option selected, may request the instructor to complete a Course Performance Report form. This request has to be made prior to midsemester. The instructor may decline to submit such a form if it is believed he or she has inadequate information to do so. Particular consideration should be given to requests from students for whom the course is part of their concentration program. Copies of Course Performance Reports will be 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 of the University at the student’s request as information on his or her work at Brown University. In such cases, the student must provide copies of all material to be enclosed at the time the transcript is requested.

Concentration Evaluations. Undergraduate students may request a written evaluation of performance in concentration, which will consist of the student’s own statement and an evaluation prepared by an appropriate faculty member. The following points may be included in such an evaluation: any special characteristics of the concentration program; information not on the student’s official transcript, such as the interest and motivation of
the student, the probable capacity for more advanced work, the ability to conduct research, and so forth; and a comment describing the bases on which the evaluation was prepared. If the student elects to have a concentration evaluation prepared, the student’s statement and request for departmental evaluation should be submitted to the concentration advisor by the end of the first week of the student’s final semester. There is no specific form for concentration evaluations; faculty may use whatever format they choose.

Transcripts: Requests for transcripts must be made in writing by completing a Transcript Order Form, available in Room 311 of University Hall. There is a per copy fee for each transcript. Please allow 10 business days for completion of an order during peak periods (December, January, February and May-June). At other times, allow five business days for each request. Students are advised to pay attention to their own deadlines and plan accordingly to insure timely receipt. Students may arrange to have transcripts mailed via Federal Express at their own expense. However, for reasons of information privacy the transcript office cannot send facsimiles of transcripts. 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

Final Examinations. A final, written examination (at the end of each semester) shall be given in each course numbered under 200 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.

Special or Make-up Examinations. These examinations are given only with the approval of the dean to students absent from final examinations.

Special examinations on the work of the first semester are given during a stated examination period, in the second week of the subsequent semester. Special examinations on the work of the second semester are given in the week preceding the opening of the academic year.

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

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

Academic Discipline

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

Nonacademic Discipline

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

Non-academic disciplinary cases are administered by the Office of Student Life, the Peer Community Standards Board, and the University Disciplinary Council. Specific hearing procedures can be found online at www.brown.edu/randr. Printed copies of the Non-Academic Disciplinary Procedures are available from the Office of Student Life.

Academic Freedom

Consonant with Brown’s tradition concerning academic freedom, the faculty and Corporation, in 1966, adopted the following statement of principles:

Academic freedom is essential to the function of education and to the pursuit of scholarship in universities.

Therefore, Brown University, mindful of its historic commitment to scholarship and to the free exchange of ideas, affirms that faculty and students alike shall enjoy full freedom in their teaching, learning, and research.

Brown University also affirms that faculty and students shall have freedom of religious belief, of speech, of press, of association and assembly, of political activity inside and outside the University, the right to petition the authorities, public and university, to invite speakers of their choice to the campus, and that students and faculty as such should
not be required to take any oath not required of other citizens. The time, place, and manner of exercising these rights on campus shall be subject to reasonable regulation only to prevent interference with the normal functions of the University.

**The Family Educational Rights and Privacy Act of 1974**

The Family Educational Rights and Privacy Act of 1974 (P.L. 93–380) extends to a student the right of access to his or her education records maintained at the University. Education records are those records maintained by or for Brown University that directly relate to an individual who is or has been in attendance (enrolled) at Brown University and for whom Brown maintains educational records. Information and notification as to the type of record; the accessibility of and policies for maintaining, reviewing and expunging the record; and the procedure for inspecting, reviewing, obtaining copies of, or challenging the record are established and promulgated by the appropriate executive officers. A copy of the University’s current FERPA policy may be obtained from the Office of the Registrar.

**Nondiscrimination Policy**

Brown University does not discriminate on the basis of sex, race, color, religion, age, disability, status as a veteran, national or ethnic origin, sexual orientation, gender identity or gender expression, in administration of its educational policies, admissions policies, scholarship and loan programs, or other school-administered programs.
The College

Admission

In order to receive information about admission to the undergraduate college, please visit our website to register online: www.brown.edu/Administration/Admission. Requests for applications for admission to undergraduate study should be addressed to:

College Admission Office
Brown University
Box 1876
Providence, Rhode Island 02912
(401) 863-2378

The application deadline for the regular admission process is January 1 of the year of desired entrance to Brown. An early plan is available for students who wish to receive December notification; Early Decision candidates must apply as early in the fall of the senior year of high school as possible but in any case by November 1.

Subject Requirements

From the University’s commitment to fostering a liberal education, it follows that a candidate for admission will profit most from pursuing a comprehensive college preparatory program. The foundations of a liberal education are laid in secondary school. A strong background in English (both literature and writing), foreign languages, mathematics, science, and history will enable students to benefit from the intellectual opportunities offered by Brown University. Brown considers the programs listed below to be a desirable secondary school preparation.

**English**—four years with significant emphasis on writing, continued through the senior year;

**Mathematics**—at least three years of college preparatory mathematics, preferably continued through the senior year;

**Foreign Language**—at least three years, preferably continued through the senior year;

**Laboratory Science**—at least two years of laboratory science above the freshman-year level. Prospective science or engineering students should take both physics and chemistry, and as advanced a level of mathematics as possible;

**History**—at least two years, including American History;

**The Arts**—at least one year of study in music or art;

**Elective Subjects**—at least one year of elective academic subjects; familiarity with computers is recommended for all applicants.

Exceptions may be made. The Board of Admission encourages the growth of innovative programs and welcomes applications from students of varying educational backgrounds who have shown outstanding intellectual promise. Exceptionally able students who are
well-prepared to enter college before completion of secondary school may also be admitted, although such cases are unusual.

**College Entrance Examination Board Tests**

Each applicant must take the Scholastic Assessment Test (SAT Reasoning Test) and any two SAT Subject Tests of the College Entrance Examination Board no later than January of the senior year. Scores for the examinations administered through the American College Testing Program (the ACT) may be submitted in lieu of those of the College Board; the ACT with the Writing Test will serve as a substitute for the SAT requirements. It is the responsibility of each candidate to take the appropriate tests and to see that they are officially reported to the Board of Admission at The College by January 1 (or the January administration of the tests). A final decision on the application cannot be made until the official scores have been received.

**Advanced Placement Examinations**

Brown participates in the Advanced Placement Program of the College Entrance Examination Board. The program’s aims are “to give able students challenging educational experiences in school, and to increase for these able students the opportunity to take advanced work in college.” Students enrolled in secondary schools participating in this program may take the appropriate examinations given in May and have the scores sent to the Office of the Dean of the College. Course credit and/or placement is determined by the appropriate academic department of Brown University, which may review the examination booklets and other materials. Policies on credit and/or placement vary from department to department. Students will be notified of such credit upon matriculation at Brown. Subjects in which course credit may be granted include American history, art history, biology, chemistry, economics, European history, French, German, Latin, mathematics, music, physics, and Spanish.

*Advanced Placement credits may not be applied to the minimum 30 courses needed to earn a Brown degree.*

**Advanced Standing for Work Done Prior to Entrance**

Freshmen who have taken college courses at an accredited institution prior to matriculation at Brown may be considered for some advanced standing. Further, freshmen who have received certification under various foreign educational systems may also be considered for some advanced standing. Questions concerning course credit and advanced standing should be addressed through the Office of the Dean of the College.

**Course Credit and Advanced Standing**

By the end of their fifth semester, students must declare to the Office of the Registrar whether or not they wish to use their A.P. and/or foreign examination credit for acceleration. To use credit for acceleration, students may request one semester of Advanced Standing (and tuition credit) for 3–6 course credits or two semesters of Advanced Standing (and tuition credit) for 7–10 course credits. Students not requesting Advanced Standing (and tuition credit) from the registrar by this deadline may not do so subsequently, except through petitioning the Committee on Academic Standing.
Transfer Admission from Other Colleges

Only a limited number of transfer students can be accepted each year. A maximum of two years of study elsewhere is transferable; extension or correspondence courses are not transferable, nor are courses outside the realm of defined academic disciplines (nursing, radio electronics and/or broadcasting, or business administration, to name a few). Students who wish to be considered as transfer candidates should write or call The College Admission Office for additional information, application forms, and procedures.

Special and Visiting Students

Each year, a number of students enrolled at other colleges spend a semester or a year as “visitors” at Brown to pursue course work (toward credit at their own college) not offered at their own institution. Other students are accepted on a nonmatriculated basis for a limited number of courses and are classified as special students.

Resumed Education Program

The Resumed Undergraduate Education program at Brown University enables a person who has interrupted his or her formal education for five or more years, or who is twenty-five years or older, to enroll as a fully matriculated student and to study at a full or part-time rate. Some applicants have begun college work already; others have interrupted their education after completing high school. The Board of Admission for Resumed Education goes beyond the traditional bases of secondary school grades and college board scores in making its admission decisions and considers a number of criteria including experience, maturity, commitment, and future potential.

Interested people should write to The Resumed Undergraduate Education Program, The College Admission Office, Box 1876, Brown University, Providence, Rhode Island 02912 or call (401) 863-2378.

Academic Status

Warning, Serious Warning, Suspension

A student must maintain the minimum standards set by the faculty and Corporation for graduation. Brown students are expected to complete satisfactorily 4 courses each semester for a total of 32 courses in 8 semesters and will ordinarily complete 8 courses in every 2 consecutive semesters. Students must complete a minimum of 30 courses in 8 semesters. A student may not be enrolled in fewer than 3 courses in any semester without written permission for short-work from the dean of the College.

Undergraduates who, in the judgment of the Committee on Academic Standing, have unsatisfactory scholastic records will be placed in one of three categories—Warning, Serious Warning, Suspension. The Committee’s judgment will depend on the extent of a student’s academic deficiency as defined by rules for the determination of academic standing voted by the faculty on February 5, 1991:

To remain in good academic standing, Brown Students must satisfactorily complete at least three (3) courses by the end of the first semester, seven (7) courses by the end of the second semester, eleven (11) courses by the end of the third, fifteen (15) by the end of the fourth, eighteen (18) by the end of the fifth, twenty-two (22) by the end of the sixth, twenty-six (26) by the end of the seventh
and thirty (30) courses to graduate after 8 semesters. In addition, students making satisfactory academic progress will complete a minimum of seven courses in any two consecutive semesters.

*Warning* serves to caution students that their record is below the standard for graduation. *Serious Warning* notifies a student that, unless the record improves, he or she will be subject to dismissal at the end of the semester.

*Suspension* may be ordered when the Committee finds that a student’s academic record is very unsatisfactory.

Students on Warning and Serious Warning will be required to seek special academic advising by the dean.

### Advising and Counseling

Brown is rich in resources for academic advising and personal counseling. Students are expected to take the initiative in seeking out and working with advisors to make the best use of their time at Brown. Each incoming freshman is assigned a faculty or staff member who serves as the academic advisor. Most often the advisor functions within the Curricular Advising Program where the advisor is also the instructor in one of the student’s courses. Otherwise, an effort is made to assign a student an advisor from an academic area in which the student has indicated an interest. Through general discussions and individual meetings with both faculty and upperclass student counselors, each freshman is expected to formulate an academically rigorous program of study best suited to his or her intellectual needs, capacities and goals.

At entrance, each student is assigned to a residential counseling unit composed of 50-70 freshmen and three or four upperclass resident counselors. Other resources for personal, career, and academic counseling and advice are available through a broad network of services, including the deans, Randall counselors, faculty fellows, University Health Services, chaplains, Resource/Academic Support Center, the Sarah Doyle Women’s Center, the Third World Center, the Career Development Center, in addition to student groups including minority peer and women peer counselors, and other peer counselors. At the outset of each academic year, the orientation program for freshmen is an important introduction to institutional information and counseling resources. Throughout the year, the offices of both the dean of the College and the dean of student life provide academic, career, and personal counseling to all students who request it.

After a student has declared a concentration program, no later than the end of his or her fourth semester, advice and counsel are also available from the concentration advisor as well as the faculty of individual departments and programs which administer the concentration.

### Student Support Services

Brown offers a number of programs to support students’ academic success and to help them take full advantage of the curriculum. These services include individual tutorial services and tutorial sections for certain courses, reading and study skills programs, a resource center, a writing center, a math center, College Venture, and the Writing Fellows program.
Additional support components exist for special needs, such as accommodations for students with physical disabilities and learning disabilities.

**The Summer Session**

Brown’s Summer Session offers an opportunity for university students to take courses on campus and at international sites during the summer. Summer classes meet for six weeks and exams and final work are completed during the seventh week of the program. Students enjoy this opportunity to take courses that they cannot fit into their regular academic year schedule, and often take summer courses to enhance their degree work or to maintain their progress toward degree completion. Faculty also enjoy the Summer Session’s pace, class size and the dedication of students to frequent meetings and concentrated effort. Summer Session courses are open to all Brown students and to students from other institutions by application.

Governed by Faculty Rules, the Summer Session maintains guidelines that are similar to those followed during the academic year. The courses are equivalent to academic year offerings, are approved by the College Curriculum Council, and, as of summer 2000, count toward official determination of academic standing.

Brown undergraduates may complete up to two courses in any given summer, and may apply a total of four Summer Session courses toward their degree. All successfully completed courses count toward the bachelor’s degree and courses at the 100-level may also count toward graduate degrees. A special Corporation rule allows undergraduates who have completed four Summer Session courses to petition for a waiver of their final semester’s tuition. Undergraduate fees for summer courses are set annually by the Corporation at a rate lower than the per-course fee during the academic year.

For more information, contact the Office of Summer and Continuing Studies, Box T, Providence, RI 02912 (401) 863-7900, or visit our Web site: [http://www.brown.edu/Administration/Continuing_Studies/](http://www.brown.edu/Administration/Continuing_Studies/).

The Summer Session calendar is posted on the Registrar’s web site, [http://www.brown.edu/Administration/Registrar/](http://www.brown.edu/Administration/Registrar/), as well as at the site above.

**Requirements for Baccalaureate Degrees**

At Brown University, education for the undergraduate has as its purpose the fostering of the intellectual and personal growth of the individual student. The student, ultimately responsible for his or her own development in both of these areas, must be an active participant in framing his or her education. A central aspect of this development is the relationship of the student with professors and fellow students and with the material they approach together. Structures, rules, and regulations of the University should facilitate these relationships and should provide the student with the maximum opportunity to formulate and achieve his or her educational objectives. Accordingly, the following curricular structure reflects these purposes. See section on the Graduate School for advanced degree requirements.

**Baccalaureate Degrees Offered**

Two baccalaureate degrees are awarded—the A.B. and the Sc.B. The Sc.B. degree recognizes a science concentration that demonstrates both breadth and depth in science
beyond the minimum required for the A.B. degree in the same field. An Sc.B. program normally will follow these guidelines:

1. The concentration program, with the exception of Engineering, shall require no more than ten courses in any one department. The total number of concentration courses required shall not exceed twenty (twenty-one for Engineering).
2. At least one semester course of independent study, research, or design in the concentration discipline must be included.
3. Additional electives must be chosen to meet the quantity requirement for all baccalaureate degrees.


Quantity and Progress Requirements

Each student is normally expected to enroll in four courses in each of 8 semesters for a total of 32 courses. (Tuition payments, by decision of the Corporation, are based on the norm of 32 courses and 8 semesters of full-time residence at Brown.)

To encourage risk-taking in the planning of educational programs, and to provide a degree of flexibility in individual programs, the minimum number of courses that must be successfully completed for graduation has been set at thirty. (Successful completion means a course completed with a grade of A, B, C, or S.) The maximum number that may be completed in eight semesters is forty. A student may choose to take a minimum of three to a maximum of five courses in a particular semester. (Note the sequence of cumulative totals in following paragraph and their implications for academic standing.)

Normal academic progress is the completion of eight courses in two consecutive semesters. Under guidelines set by the faculty, to remain in good standing, a student must satisfactorily complete at least seven (7) courses by the end of the first year, fifteen (15) by the end of the second year, twenty-two (22) by the end of the third year, and thirty (30) by the end of the fourth year. In addition, a student must satisfactorily complete a minimum of seven (7) courses in any two consecutive semesters. Students who do not meet these requirements will have their cases referred to the Committee on Academic Standing for action which may result in academic status of Warning, Serious Warning, or Dismissal. A student may not be enrolled in fewer than three (3) courses in any semester without written permission from the dean of the College for short-work. Resumed Education students may study either on a part-time or full-time basis.

Academic standing is determined only on the basis of courses completed at Brown. Transfer credit, Advanced Placement (A.P.) credit, and summer credit earned beyond Brown do not figure in the determination of academic standing. Transfer credit for courses taken at other institutions, either in this country or abroad, may be granted by the Committee on Academic Standing on the recommendation of a department and, in the case of courses qualifying for concentration credit, on the recommendation of the student’s concentration advisor.
Students who apply transfer credits towards completion of the requirements for their Brown baccalaureate degree must complete successfully at least 15 courses and 4 full-time semesters of course work at Brown.

A.P. credits may not be applied to the minimum requirement of satisfactory completion of 30 courses. However, A.P. credits may contribute to advanced standing, as described under “Tuition Regulations—The College.”

Residence Requirement
Every candidate for a baccalaureate degree, except those enrolled in the Resumed Education Program, must be enrolled for at least four semesters as a full-time student and must complete satisfactorily a minimum of fifteen courses at Brown. (Note: Terms from Brown Exchange programs and the Brown Summer School do not apply to the residency requirement.) Students in the Resumed Education Program must complete satisfactorily a minimum of fifteen courses at Brown and be in residence for the equivalent of four full-time semesters. Resumed Education students may study either on a part-time or full-time basis. Every student must spend sufficient time in concentration studies to permit faculty evaluation of his or her concentration.

English Requirement
Since its founding, Brown has stressed the importance of writing. Competence in reading and writing is required for all degrees. Beyond competence, Brown seeks to develop the quality of a student’s writing in courses throughout the University.

In general, the entering student is expected to have demonstrated the ability to write by superior performance in secondary school or college courses. Students who, in the opinion of the dean, have not clearly demonstrated such competence will be directed by the dean to enroll during their first semester in a designated course that requires significant reading and writing.

As they continue at Brown, all students are expected to pursue a high level of performance in their writing. Students who, in the opinion of their instructors, fail to maintain an appropriate level of competence in reading or writing, should be referred to the dean for placement in a course offering the opportunity to improve their abilities. If students do not complete such a course satisfactorily and/or are judged by the dean to be incompetent in writing, they will be refused registration by the Committee on Academic Standing until they meet the responsibilities for the completion of the writing requirement.

Concentration Requirement
Concentration is the focal point for a student’s undergraduate educational experience. It is the in-depth study of a discipline or disciplines, a problem or a theme, or a broad question.

In their concentration, students undertake an extensive inquiry into an area which is personally significant. They are challenged to integrate large amounts of material with their personal experience. The very nature of a long and rigorous inquiry will aid students in assessing their capabilities and limitations.

Concentration should be undertaken in ways that will maximize students’ contact with individual professors, who will guide them and work with them, and with fellow students who are working in related areas.

Concentration may coincide in some ways with specific prerequisite training for professional goals, but professional training is not the central aspect of the concentration.
process. Concentration is designed to foster and promote the processes of intellectual and personal development which are at the center of the undergraduate experience.

Departments and interdepartmental groups of faculty may establish, subject to the approval and periodic review by the College Curriculum Council, standard programs of concentration. Faculty advisors designated by the department and interdepartmental groups to serve as concentration advisors will guide students in undertaking approved standard concentrations.

Standard departmental concentration programs for the bachelor of arts degree shall require no fewer than eight semester courses and no more than ten. Concentration programs for the bachelor of science degree, with the exception of Engineering, and standard interdepartmental bachelor of arts programs shall require no more than ten courses in any one department. The total number of concentration courses required for the bachelor of science degree and for standard interdepartmental bachelor of arts programs shall not exceed 20 (21 for Engineering). None of these limits need preclude a reasonable number of pre- or corequisites, but when passing upon any concentration requirement the College Curriculum Council shall also review the number of these pre- or corequisites.

To declare a standard concentration, all students must file an appropriate concentration declaration form with the registrar, with a copy sent to the department, no later than the end of Semester IV; any student may file at any time prior to the end of Semester IV. No student will be permitted to register for his or her fifth semester unless a declaration of concentration has been filed. Students failing to complete registration on time because of the failure to file a concentration declaration will be subject to the same action taken by the University for all cases of late registration (see page 134). Changes in declaration are permissible in accordance with the above procedure.

Students will devise the details of a standard concentration in consultation with their concentration advisor. Forms for this purpose are available in the Office of the Registrar. The concentration form consists of three parts: (1) a statement by the student of his or her reasons for selecting the field of concentration and plans for completing it; (2) a list of the courses the student plans to take in order to fulfill his or her purpose; (3) a statement from the concentration advisor approving the student’s program. All three pages of this form must be completed in order to file.

The concentration advisor for a standard concentration program will be responsible for meeting regularly with the student throughout the period of concentration, to provide guidance as well as to assess, with the student, progress made toward attaining the goals embodied in the concentration program. These reviews should take place no less than once in Semester V and once before midterm of Semester VII. This essential relationship will form a central feature in the terminal evaluation of a student’s performance in concentration.

Students also have the option of designing an independent concentration if the standard departmental and interdepartmental programs do not suit the focus of their interests. Independent concentration proposals are sponsored by at least one faculty member and must be reviewed and approved by a subcommittee of the College Curriculum Council.

Students, in consultation with an appropriate faculty member, will propose and design an Independent Concentration centered on a broad question, theme or substantive intellectual problem. An application for such a proposal is available in the Office of the Dean of the College. The application must include a written proposal presenting a statement on the major objectives of the concentration program, most importantly including any relevant methodological considerations. In addition, the application includes a list of the
specific courses to be taken, an annotation of that list discussing the specific relevance of each proposed course, and a brief bibliography of important books and/or articles in the proposed field of study. Applications are not considered complete without the submission of a faculty Sponsor Statement, signed by the faculty advisor to the independent concentration. The faculty advisor for an approved independent concentration program is responsible for meeting regularly with the student throughout the period of concentration, to provide guidance as well as to assess, together with the student, progress made toward attainment of the goals embodied in the concentration program. This essential relationship forms a central feature in the final evaluation of a student’s performance in concentration.

All courses in the concentration program—standard or independent—must be completed satisfactorily.

A student who satisfactorily completes more than one concentration program may have that fact indicated on his or her permanent record. In order to accomplish this, the student must have filed a concentration program form with the registrar for each concentration. Sponsorship and authorization of each concentration program shall follow the usual procedures.

**Tuition Requirement**

Prior to the awarding of a baccalaureate degree, each candidate must have accumulated credit for the payment of eight semesters of tuition or the equivalent. The eight-semester tuition requirement is separate from and in addition to any other degree requirements. Advanced standing based on advanced placement credits and/or college-level work completed before Brown may be applied toward this requirement. Approved study during the school year at another institution in the United States or abroad may also count toward this requirement.

**Honors Program:** The University, at graduation, grants honors to students whose work in the field of concentration has demonstrated superior quality and culminated in an honors thesis of distinction. The designation “Honors” is included on the student's transcript and diploma. No distinctions are made among quality levels of honors work. Students considering honors work should consult their departmental, interdepartmental, or independent concentration advisor.

The College Curriculum Council administers the honors program, reviews and approves departmental honors procedures, and assumes overall responsibility for the program.

Recommendations for honors are due in early May preceding Commencement. Only students who have completed all work before graduation may receive the honors distinction. Brown does not grant honors retroactively. Therefore, students who consider taking a grade of Incomplete in a thesis project should understand that they will not receive honors unless the thesis is completed in time to be evaluated by faculty readers and a recommendation submitted before graduation.

**Requirements for Combined Degree Programs**

**Combined Five-Year Program Leading to an A.B. Degree and an Sc.B. Degree**

Students who wish to earn both an A.B. degree and an Sc.B. degree may do so in a five-year program in which the work for both degrees proceeds concurrently. Programs of
students who elect this five-year plan will usually be arranged so that those who wish may change to either degree candidacy alone prior to the fourth year.

The specific requirements for this degree program are as follows:

1. Satisfactory completion of:
   a. The Sc.B. requirement for a standard concentration program in life sciences or physical science and mathematics, or an approved independent Sc.B. program spanning one or more of these areas.
   b. The A.B. requirement for a standard or independent concentration in the humanities or social studies.
2. A minimum of 38 courses passed. Transfer credits to conform to general university regulations governing other undergraduate programs.
3. At least three years in residence.
4. Declaration of intent by filing with the registrar a formal application approved by the appropriate dean no later than the fifth semester.

Tuition Requirement

Prior to the awarding of these combined degrees, each candidate must have accumulated credit for the payment of ten semesters of tuition or the equivalent. The ten-semester tuition requirement is separate from and in addition to any other degree requirements. See Student Charges, page 133, for details concerning required tuition payments.

Combined Five-Year Program Leading to a Baccalaureate Degree and a Master of Arts in Teaching

Note: Applications to this program are currently suspended. Students interested in pursuing the MAT in a secondary subject area or in the integrated BA/MAT in elementary education should consult with the Department of Education faculty.

Concurrent Program Leading to a Baccalaureate Degree and a Master’s Degree

Subject to the prior approval of the department involved, and the Graduate Council, and the Committee on Academic Standing, exceptionally capable students may be permitted, in their junior year, to enter a graduate program of study leading to the earning of both a baccalaureate and master’s degree at the end of eight or nine semesters. Students who are granted this permission will be expected to complete the specific requirements for both degrees, although some courses may be used for credit toward both degrees. The candidate will complete a minimum of 34 courses within eight or nine semesters. Normally, no more than two courses counted toward the undergraduate concentration may be used to fulfill the requirements of the graduate degree. The program will include at least two 200-level courses, not including any 200-level courses counted for the independent project or thesis.

In cases where the requirements for an advanced degree are partially completed by students in meeting the requirements for a baccalaureate degree, graduate credit for such work may be allowed under the following conditions: (1) formal admission to the Graduate School must be applied for and granted, (2) the Graduate Council shall, in consultation with the department involved, determine the remaining requirements to be satisfied for the advanced degree.
The Committee on Academic Standing has adopted certain guidelines which it will follow in considering for approval requests for admission to this combined degree program. Interested students should obtain a copy of these guidelines at the Office of the Registrar prior to filing an application.

**Five-Year Baccalaureate–Master’s Degree Program**

Departments may submit to the Graduate Council for its approval proposals to establish integrated programs leading to the successive awards of the bachelor’s degree and the master’s degree. Such programs shall, as the name suggests, articulate the work of the undergraduate years with that of the graduate. In these programs all the academic requirements for each degree must be separately met.

A student to whom no integrated program is available may draw up plans for such a program and submit them to the Graduate Council through the graduate representative of the department in which the student proposes to do advanced study.

A student must make application to study in an integrated program no later than the end of the third week of his or her penultimate semester of undergraduate study. Admission to the Graduate School for the fifth year will ordinarily be a matter of course; however, such admission must be applied for at the proper time and decided on in the regular way.

As many as two graduate-level courses taken by a student during undergraduate study at this university in an integrated bachelor-master’s degree program may be offered in partial fulfillment of the requirements for the master’s degree if not already used to meet specific requirements for the bachelor’s degree. However, the equivalent of at least six semester courses must be taken in-residence as a graduate student at Brown University.

**Full-Time Enrollment**

Each full-time undergraduate degree candidate is required to take from three to five courses each semester. Four courses per semester is considered the normal course load.

Permission of the dean is required to take fewer than three courses in any semester. Students who at the beginning of their senior year lack fewer than six semester courses toward the completion of their course requirement may obtain permission to distribute their work over the last two semesters.

**Degrees with Distinction**

Baccalaureate degrees may be awarded with distinction (*magna cum laude*) to those students whose percentage of quality grades in courses taken at Brown puts them in the top 20% of the entire undergraduate graduating class. The registrar will provide an opportunity for students to indicate that they do not wish to be considered for a degree with distinction.
Guidelines for Study Elsewhere

Transfer Credit for Study Elsewhere

In a semester credit hour system, one Brown course is considered the equivalent of four semester hours. In a quarter credit hour system, one Brown course is considered the equivalent of six quarter hours. For that reason, the number of course transfer credits received for study away from Brown may not be equal to the number of courses taken. For example, a student taking three four-semester-hour courses, all properly approved for Brown transfer credit, will receive the equivalent of three Brown course credits. However, a student taking three four-quarter-hour courses, all properly approved for Brown transfer credit, will receive the equivalent of two Brown course credits.

In order to be considered for transfer credit, courses must be completed with a grade of C or better, and an official transcript must be received by the Office of the Registrar from the host institution. This transcript will be retained by the University. All transfer credit must receive faculty and Committee on Academic Standing approval. Students should also keep all records from their work away, including, e.g., course syllabi, exams, papers, notes, projects, and portfolios, in the event that post-approval is required from an academic department at Brown. It is the student’s responsibility to clarify in advance any concerns regarding the amount of transfer credit which may be awarded.

The Brown transcript will indicate the total number of transfer credits received and the name of the host institution, as well as the approved course equivalencies and/or unassigned credits at Brown. Students applying to graduate and professional schools are often asked to provide official transcripts from all institutions at which they have been enrolled. In such cases, the student will need to request a copy of his/her transcript from the study-away institution.

Summer Study Elsewhere

Two avenues of study are available to undergraduate students interested in summer work. They may take courses in the Brown Summer School, or transfer credit from other summer programs which meet certain conditions. The institutions must be accredited, degree-granting, four-year institutions. Students should obtain preliminary approval of the Committee on Academic Standing and appropriate faculty and departmental support. Extension division courses will not be allowed. Summer transfer credit may not be used to advance a student’s date of graduation, nor will it figure in the determination of academic standing. The maximum number of summer credits from all sources is four course equivalents, with no more than two in the same summer. Students interested in summer study elsewhere should consult staff in the dean’s office or the Office of International Programs (OIP), as appropriate.

Study at Other U.S. Institutions

Students who wish to study at other U.S. institutions for transfer credit toward their Brown degree may do so with prior approval of the appropriate departments and the Committee on Academic Standing (CAS). The CAS delegates to a specific dean of the College the authority to approve petitions for such programs.

Students planning study elsewhere in this country should obtain an instruction sheet and a preliminary transfer credit approval form from the dean responsible for off-campus study. The student should then work out a program and present it to his or her concentration
advisor and other appropriate faculty members for approval. When the preliminary transfer credit form is returned to the dean, that dean will approve it on a tentative basis for the CAS or advise the student to petition the CAS, in which case instructions for that petition will be made available.

Students returning from study elsewhere may receive up to eight course credits for work undertaken during one academic year, but normally no more than four concentration credits may be awarded. Credit cannot be granted until the student has successfully completed the work and has had an official transcript sent to the registrar.

Validation of credit will be carried out on a course-by-course basis. If the nature and the quality of a student’s work in a specific course cannot be sufficiently determined on the basis of the available documentation, the department may give the student an oral or written validating examination. Validation should be completed as soon as possible after the student’s return to Brown, normally no later than midsemester.

Students who take a semester or year for off-campus study are granted a leave of absence and are asked to write the dean responsible for off-campus studies about returning to Brown. Such notification should be received no later than November 15 for return for the spring semester and no later than May 1 for return for the fall semester.

Foreign Study

The College Curriculum Council (CCC) prepared new guidelines for foreign study at Brown in 1990. The following is a synopsis:

1. The Definition of Foreign Study

To receive credit for foreign study, students must spend at least one semester enrolled in a foreign institution of higher learning, subject to the same rules and regulations as the host institution’s regular students. There are two exceptions: where the language of study is one in which sufficient proficiency is unlikely to be achieved by the average Brown undergraduate, but the student should study the language while in the country; and where the usual assessment procedures may not be appropriate, in which case special arrangements may have to be made. Students may not study on itinerant programs (i.e., those which travel through many sites rather than are based in one primary site). Nor may they study at institutions created for overseas study for Americans, with special exceptions: for study of a specific area and/or field research unavailable at Brown or better pursued at a foreign site OR in sites where “the Average Brown student” cannot study alongside local students because of the language, e.g., Yonsei, Keio, Denmark, Sweden.

Exceptions include Syracuse-in-Florence, for art history students; ICCS in Rome for classics students; programs which provide a structured “field studies” curriculum appropriate for students in such fields as development studies, environmental studies, ecology, geological studies, etc.; and programs providing for studies pursued at Brown but often not found in regular university programs overseas, such as studio art or theater arts. Prerequisites for such programs will be stated and must include previous course work pertinent to the intended study abroad.

2. Foreign Study and Brown Curriculum

Foreign study should be used to complement the applicant’s program of study at Brown. This should be ascertained by the Office of International Programs (OIP) in consultation with the CCC subcommittee on Foreign Study, the Committee on Academic Standing (CAS), and regional advisory committees.
3. Non-Brown programs

Faculty committees recommend to OIP a short list of programs which are approved for foreign study. This list should include all Brown-sponsored programs and 3 programs administered by institutions other than Brown in each region. OIP will compile a master list of approved programs. Students will not need CAS approval for study on these programs. All such programs should conform to the guidelines. The list will be reviewed every two years but any new Brown-sponsored programs will be added immediately.

4. For Programs Not on the List

Students may petition for approval to study on other programs but should be sure to check the foreign study guidelines to see if the proposed program meets the criteria. Grounds for such exceptions include: a program in a country where there is no approved program; or at an institution known for excellence in a specific field. Students must submit a written rationale, a tentative list of courses, a supporting statement by a faculty member familiar with the program or expertise in field of study being pursued. The proposal will be evaluated by the appropriate regional committee and the CAS will make the final decision.

OIP will report annually on petition actions to the CCC subcommittee on foreign study.

The Office of International Programs at Brown University coordinates all foreign study undertaken by Brown students either on Brown sponsored programs or on Brown approved programs. At present Brown sponsors programs in the People's Republic of China, France, Italy, Germany, Denmark, Sweden, Poland, The United Kingdom, Egypt, Tanzania, Japan, Korea, Barbados, Ethiopia, Brazil, India, Mexico. Students interested in study abroad should check with this office as far in advance of any intended study as possible. Brown students of any nationality are not allowed to study abroad in countries where there is a travel ban by the U.S. State Department.

Information and counselling about foreign study is provided by the Office of International Programs staff and student peer counsellors working in the Office of International Programs Resource Library as well as by departmental advisers.

Students planning to study abroad must be in good academic standing. They must be able to demonstrate competency in a foreign language, if one is involved in the foreign study opportunity. Brown program applications are reviewed by faculty committees. Prior approval of the Committee on Academic Standing is required for all students intending to study abroad on non-Brown programs not on the approved list for transfer credit. Prior approval of departments must also be secured for credit towards concentration.

Students planning to study abroad should visit the OIP Resource Library, meet with an OIP advisor, and with her or his concentration advisor. Students may receive up to eight course credits for work undertaken during one academic year. Normally no more than four concentration credits will be allowed. Credit cannot be obtained until the student has successfully completed the work and obtained documentation of what has been accomplished. For concentration credit the student on Brown programs will have to obtain approval from the appropriate departmental concentration advisor. This credit is usually granted after the student presents documentation including evidence of work completed in the course(s) to the departmental concentration advisor.

Official transcripts should be sent to the registrar. When other forms of evaluation or other documentation are to be used, these should be brought by the student to the Office of International Programs. Students not on Brown sponsored programs may be asked to take such materials to faculty advisers for review and final approval.
For students not on Brown sponsored programs validation of credit may be carried out on a course by course basis. If the nature and quality of a student’s work in a specific course cannot be sufficiently determined on the basis of the available documentation, the department in question may give the student an oral or written validating examination. Validation should be completed as soon as possible after the student returns to Brown, normally no later than midsemester.

Time spent on study abroad does not apply to the four semester residency requirement for the degree. All students are asked to write to the Office of International Programs about returning to Brown. Such notification should be received no later than December 1 for return in the spring semester and no later than May 1 for return for the fall semester.

Credit may be awarded for summer study abroad particularly for language study. Students considering this option should consult with the Office of International Programs.

**Independent Concentration Programs**

Students also have the option of designing an independent concentration if the standard departmental and interdepartmental programs do not suit the focus of their interests. Independent concentration proposals are sponsored by at least one faculty member and must be reviewed and approved by a Subcommittee of the College Curriculum Council.

**Standard Concentration Programs**

A listing of departmental and interdepartmental concentration programs which are currently available may be found at: [http://www.brown.edu/Administration/Registrar/concentration.html](http://www.brown.edu/Administration/Registrar/concentration.html). The programs have been approved and are subject to periodic review by the College Curriculum Council. For more information on general course offerings, please refer to the department section listed under Divisions, Departments, Centers, Programs, and Institutes.
The Graduate School

Admission

A student who wishes to enter the Graduate School should, in the fall preceding the academic year in which he or she intends to enroll, obtain an official application from the Graduate School, or apply electronically from the Graduate School website (http://www.brown.edu/Divisions/Graduate_School/). All applications must be supported by official transcripts from each college or university attended, and a personal statement from the student describing plans for graduate study. Also required are three letters of recommendation from persons well acquainted with the applicant and qualified to comment on his or her potential for graduate study. At least two of these letters must be from professors at the institution of current study or, if not in any school at the time of applying, at which the applicant most recently studied. For submission of test scores, etc., see under Graduate Record Examinations, below. Completed applications are due in the Graduate School Admission Office the date specified in the application materials for the desired program with the full application fee. Applications received after this date will be considered at the discretion of the program.

Applicants for admission must either already hold or else be in the process of completing the requirements for an appropriate baccalaureate degree. It is impossible to accept all applicants; and only those whose previous records, test scores, and recommendations give clear evidence of their ability to do advanced work of the highest quality are admissible. The suitability of the applicant’s training and interests to our programs is also influential in determining which applicants can be admitted and which cannot.

Applications for admission beginning in the spring semester must be filed by November 1. However, it is not always possible to admit additional students at midyear in all departments. No student is allowed to register unless he or she has been notified of admission by the Graduate School. Admission to the Graduate School does not imply acceptance as a candidate for a degree.

Students who wish to complete essentially undergraduate preparation cannot be admitted to the Graduate School.

Brown University does not discriminate on the basis of sex, race, color, disability, 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.

A nonrefundable fee of $70 should accompany each application. An application will not be processed until the fee is paid. All correspondence concerning admission should be addressed to the Graduate School Admission Office.

Graduate Record Examinations

Both General Aptitude and Advanced Subject tests are required of applicants in biology and medicine, chemistry, computer science, English, physics, and psychology. The General Aptitude test only is required of applicants in anthropology, applied mathematics, biomedical engineering, brain science, classics, cognitive and linguistic sciences, comparative literature, developmental studies, economics, education, Egyptology,
environmental studies, French studies, history of art and architecture, music, Old World archaeology and art, philosophy, political science, Portuguese and Brazilian studies, Public Health, religious studies, sociology, and theatre studies. It is strongly recommended for applicants in American civilization, engineering, geological sciences, Hispanic studies, history, and mathematics.

Information about the Graduate Record Examination may be obtained from the Educational Testing Service, Box 955, Princeton, NJ 08541 or www.gre.org.

Foreign Students

Graduates of foreign colleges and universities who believe that they have completed the equivalent of at least an American bachelor’s degree may apply for admission. Foreign applicants should enclose with the official application original documents, or official certified copies, indicating the nature and scope of their educational program.

The importance of ability in the English language cannot be overemphasized. A student should not come to the United States to study unless he or she is competent in reading, writing, and speaking the English language; listening comprehension (for lectures) is most important.

All foreign students whose native language is not English must submit an official copy of the TOEFL (Test of English as a Foreign Language) score. The minimum acceptable score set by the Graduate School is 500. Some departments require a higher score. To receive an appointment as a teaching assistant, foreign students are required to demonstrate oral proficiency in the English language. Before assuming teaching duties, foreign students must be certified by the University’s International Teaching Assistant Program. An English-language program is available during the summer and the academic year.

The TOEFL should be taken early enough to allow the score to reach the Graduate School by the departmental application deadline. Application forms and information about testing dates for the TOEFL may be obtained by writing to Test of English as a Foreign Language, CN6000, Princeton, New Jersey 08541-6000 or www.toefl.org.

Classification of Students

Regular Students: All students who are admitted to an advanced degree program with full graduate standing.

Special Students: Students who are not candidates for advanced degrees.

Full-Time Students: A full-time student is one who devotes his or her entire time to a program of graduate work. Such a program may include teaching and research assistance, preparation for foreign language examinations, preparation for the preliminary examination, and supervised work on theses, as well as regular course work.

Whether regular or special, students may be classified as either full-time or part-time, so long as there is no legal or contractual barrier to the classification.

Enrollment

Every student, whether continuing in courses of study or engaged in research or in writing a thesis, is required to enroll at the beginning of each academic year. 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. No student may take examinations, use any of the facilities of the University, submit a thesis or dissertation, or be a candidate for a degree unless properly enrolled.

Summer Study: Graduate students who wish to secure credit for summer work may make arrangements with their departments for reading or research courses. They must enroll formally with the registrar by June 15th. In addition, they may register for courses in the Summer Session (see page 106). With the approval of the graduate program, graduate students may earn academic and tuition credit for a Summer Session course by paying a tuition unit instead of the Summer Session fee.

Traveling Scholar (in absentia): Advanced graduate students may request permission from the Graduate School to register for a semester or an academic year as a Traveling Scholar in order to conduct full-time research or fieldwork in a location removed from Brown. Traveling Scholar registration is renewable for not more than one additional year. The student’s department must certify to the Graduate School that the research or fieldwork to be done away from Brown is necessary for the completion of the degree program. Students on Traveling Scholar registration are considered full-time students, are eligible for loan funds and/or loan deferment during those semesters spent away from Brown, and have the option to buy university health insurance for coverage during this same period. Applications for Traveling Scholar registration are due in the Graduate School by August 1 for Semester I or the academic year, and by December 15 for Semester II. The fee for Traveling Scholar registration is currently set at $100.00 per semester.

Filing Fee Status: Students not in residence who have met all other requirements for the degree and who have been approved by the Graduate School may enroll under Filing Fee Status to submit a thesis or dissertation. The Filing Fee is currently $150.

Changes in Schedule: Changes in schedule, including the dropping of courses, may be made only with the approval of the department of major study and the registrar.

Separation: A general term, covering any absence or severance of a student from the Graduate School. Separated students must be in one of the following categories:

Leave of Absence: Granted by the dean of the Graduate School upon the written request of the individual student and with the written approval of the department or program concerned. Requests for leaves may be based upon plans to interrupt resident graduate study for field work, study abroad, professionally related employment, or for personal reasons. Leaves are granted for a specific period of time, normally not more than one calendar year. Upon termination of this time period, the student must resume active graduate study or apply for and be granted an extension of the leave; otherwise the student’s leave will be changed to “withdrawn” status.

No readmission decision is required for a student returning from Leave of Absence to active graduate study. However, students must write to the Graduate School to request registration material no later than one month prior to the expiration of a leave, and pay a re-enrollment fee of $70.00. If a student whose Leave of Absence status has been changed to “withdrawn” wishes to resume graduate education at Brown, the student must make a formal request for readmission and receive the recommendation of the department and the approval of the dean of the Graduate School. In addition, there is a readmission fee of $70.00.

Voluntary Withdrawal: Separation from the Graduate School effected by the dean upon the
written request of the graduate student. The student’s reasons for wishing to withdraw need not be specified in the statement of request, but those reasons may include personal, academic, medical, financial, or other factors. Departmental approval is not required, but the Graduate School routinely informs the concerned department before effecting a student’s withdrawal. To resume graduate education at Brown, the student must make a formal request for readmission, and receive the recommendation of the department and the approval of the dean of the Graduate School. In addition, there is a readmission fee of $70.00.

Involuntary Withdrawal: The dean of the Graduate School may effect involuntary withdrawal for good and sufficient reasons, including: academic reasons, failure to meet university charges, disciplinary reasons, medical reasons (see below). The dean may consult with the student’s department, the University Health Services, or other concerned parties. In the case of academic withdrawal, the action will be effected upon the recommendation of the department. Readmission is possible for some students who are involuntarily withdrawn from the Graduate School. Where this possibility exists, the conditions and procedures for readmission are described in the letter of withdrawal from the Graduate School to the student.

Involuntary Withdrawal for Medical Reasons: Implies that the length of the period of withdrawal is contingent upon the student’s attaining full recovery. If such a withdrawal is occasioned by psychological factors, the minimum withdrawal period set by the dean will normally be either (1) no less than the remainder of the semester in which the withdrawal takes place, or (2) a period of no less than three months, whichever is, in the judgment of the dean in consultation with the Brown University Health Services, appropriate to the individual student both personally and academically. The minimum length of withdrawal will be specified to the student by the Graduate School in its letter of notification. Students seeking readmission after withdrawal for medical reasons must be examined at the Brown University Health Services to determine if their recovery is sufficient to permit recommendation for readmission. The actual decision to readmit is made by the dean of the Graduate School.

Record of Withdrawal: Reasons for withdrawal are not entered on a student’s transcript, nor does the transcript show whether withdrawal was voluntary or involuntary.

General Information Regarding Degrees

Graduate study at Brown University began in 1850, at which time provision was made for the awarding of the master’s degree upon successful completion of one year’s academic work past the bachelor’s degree. This system was discontinued in 1857. The more modern tradition of graduate study at Brown began in 1887, when the faculty and fellows agreed to publish in the Catalogue of the next year rules for the award of both the master’s degree and the Ph.D. degree in regular programs of advanced work. The first master’s degrees under the new plan were granted in 1888 and the first Ph.D.’s in 1889. Women were admitted to graduate study at Brown almost immediately thereafter, in 1892.

By 1900, Brown University had awarded twenty-three Ph.D.’s and eighty-nine master’s degrees under the administration of the Standing Committee of the faculty which was charged with this duty. In 1903 a Graduate Department was established with its own dean, Carl Barus, Hazard Professor of Physics. Dean Barus continued in his deanship until 1926. In May 1927 the Graduate Department became the Graduate School.
The first dean of the new Graduate School was R. G. D. Richardson, Professor of Mathematics and dean from 1926 to 1948. His successors were Barnaby Conrad Keeney (1949–1952), Professor of History, who served also as dean of the College and then as Brown’s twelfth president from 1955 to 1966; R. Bruce Lindsay (1954–1966), Hazard Professor of Physics; Michael J. Brennan (1966–1974), Professor of Economics; Maurice Glicksman (1974–1976), University Professor and Professor of Engineering; Ernest S. Frerichs (1976–1982), Professor of Religious Studies; Mark B. Schupack (1983–1986), Professor of Economics; Phillip J. Stiles (1987–1993), Ford Foundation Professor of Physics; Kathryn T. Spoehr (1993–96), Professor of Cognitive and Linguistic Sciences; (1996-2003) Peder J. Estrup, Newport Rogers Professor of Chemistry and Professor of Physics. The current dean is Karen Newman, University Professor and Professor of Comparative Literature and English.

The University faculty delegates certain of its powers with respect to graduate education to the Graduate Council. The duties of the Graduate Council are to set policy for the Graduate School subject to the approval of the faculty and the board of fellows, such policy to include the conditions for admission to the Graduate School and the procedures for the award of graduate fellowships and scholarships; to supervise degree requirements; to approve new courses and other modifications of existing degree programs and to approve and recommend to the faculty new degree programs; to review graduate programs periodically in consultation with the departments; and to make annual reports to the faculty of its activities during the preceding year. The University awards, through its Graduate School, the advanced degrees of master of arts, master of arts in teaching, master of fine arts, master of medical science, master of public health, master of science, and doctor of philosophy. There is a joint M.D.–Ph.D. program which is offered in conjunction with the Brown Medical School.

Most divisions, departments and programs accept applicants for both the master’s and the Ph.D. degree; however, many emphasize primarily Ph.D. programs.

The degree of doctor of philosophy is offered in American civilization, anthropology, applied mathematics, biology, brain science, chemistry, classics, cognitive and linguistic science, comparative literature, computer science, economics, Egyptology, engineering, English, French studies, geological sciences, Hispanic studies, history, history of art and architecture, history of mathematics, Italian studies, Judaic studies, mathematics, medical science, modern culture and media, music, neuroscience, Old World archaeology and art, philosophy, physics, political science, Portuguese and Brazilian studies, psychology, religious studies, sociology, theatre studies and special graduate study.

The master of arts or master of science may be taken in all of the above areas with the exception of special graduate study, and is the highest degree now offered in biomedical engineering; Brazilian studies; comparative study of development; environmental studies; Portuguese bilingual/ESL and cross-cultural studies.

The master of arts in teaching is available in the fields of biology, English, social studies, and elementary education only. The master of fine arts is offered in literary arts and theatre studies. The master of medical science is restricted to students enrolled in the Medical School, though it is awarded through the Graduate School. The master of public health is awarded through the Graduate School.

An officer of instruction of professorial rank at Brown University may not be a candidate for an advanced degree.

Part-Time Study: Students who can give only a portion of their time to their studies may be admitted in almost all departments.
Credit: Academic credit is stated in terms of semester courses. A regular semester course, or the equivalent research, carries one semester course credit and for purposes of evaluation may be considered the approximate equivalent of four semester hours. The normal course load for a student who is studying full time is four courses per semester.

Conferring of Degrees: Degrees are conferred at the University Commencement at the end of the academic year. However, at any time during the year, if a student has completed all the requirements for the degree, he or she will be issued, upon request to the registrar, a certification that the degree will be conferred at the next Commencement.

Graduate Council

The Provost, the dean of the faculty, the dean of the Graduate School (Chair), the associate deans of the Graduate School, the dean of the College, and the Vice President for Biology and Medicine serve as ex officio members.


Note: full membership includes four graduate students.

Degree Requirements

In the spring of 1971 the faculty and the board of fellows approved proposals reflecting changes in the philosophy of graduate study at Brown University. Many of the traditional requirements for degrees were removed from the general regulations of the Graduate School, thereby bestowing on the departments, and the nondepartmental programs, an unusual freedom in defining their own degree structures. Since then, provisions also have been made for individually designed programs leading to the Ph.D.

The Ph.D. is primarily a research degree, and in some departments there is a formal supervised research requirement for the degree. Teaching is an important part of most graduate programs and certain departments require candidates for the Ph.D. to have teaching experience. The exact research or teaching requirements are noted with each department’s program description.

The statements in this section describe the minimal quantitative requirements for advanced degrees. Each of the graduate programs has its own standards of quality and achievement, and these too must be met. The mere mechanical fulfillment of the stated basic requirements will not by itself earn any advanced degree. The faculty of the program concerned must also be satisfied as to the intellectual merit and scholarly potential of the student.

Master’s Degrees

There is no provision for working for any master’s degree outside the established programs. The minimum requirement for a master’s degree is eight semester course credits (eight tuition units) in graduate work, successfully completed.

Graduate work done in graduate residence at other institutions and not used in fulfillment of the requirements for a degree may be offered in partial fulfillment of the requirements for a master’s degree provided it is approved by the department or program and by the registrar. However, the equivalent of at least seven semester courses must be done in residence at Brown University. Students who wish to transfer credit for work done
elsewhere should file an application with the registrar of the University well in advance of Commencement; forms are available in the Office of the Registrar.

Normally, all work to be used in fulfillment of the requirements for the master’s degree must be completed within a period of five years.

Individual departments and programs often have additional requirements as to the number of courses to be taken, proficiency in foreign languages, special examinations and theses. Departments have more detailed information about specific master’s degree programs.

**The Doctor of Philosophy**

There are three general requirements for the Ph.D.: residence, advancement to candidacy and the dissertation. The normal residence requirement is the equivalent of three years of full-time study past the bachelor’s degree (i.e., twenty-four tuition units). At least two semesters beyond the master’s degree must be spent exclusively in full-time study at Brown University.

Graduate work done in graduate residence at other institutions and not used in fulfillment of the requirements for the degree of doctor of philosophy elsewhere may, on the recommendation of the department of study and with the approval of the registrar, be counted in fulfillment of the residence requirement. However, no more than the equivalent of one full year of study may be so counted. A student who desires credit for work done elsewhere should file an application after completing at least one semester in the Brown University Graduate School; forms are available in the Office of the Registrar.

A student is advanced to candidacy for the Ph.D. when he or she has satisfactorily completed all the requirements, departmental and general, requisite to beginning work on the dissertation. Candidacy is determined by the department or program of the degree and certified by it to the registrar and Graduate Council. At present, most departments require a preliminary examination before advancing any student to candidacy. The preliminary examination is designed to test the student’s mastery of his or her field of study; it is not necessarily confined to courses taken by the student at Brown University or elsewhere. Most departments also require a final examination. The examination is conducted by officers of professorial rank in the department or departments concerned and by such other members of the faculty as may be appointed. All requirements for the Ph.D. must be completed within five years after advancement to candidacy.

Individual departments and programs often have additional requirements as to course work, foreign languages, computer training and preliminary and final examinations. Each department has detailed information about its specific doctoral program.

The candidate must present a dissertation on a topic related to his or her area of specialization which embodies the results of original research and gives evidence of high scholarship. The dissertation must be approved by the professor under whose direction it is written and by the Graduate Council.

The candidate must sign a contract authorizing the Graduate School to have the dissertation published in microfilm. Since publishing of an abstract of a dissertation in *Dissertation Abstracts* and the offering for sale of film copies of the dissertation constitute publication, the author is governed by existing laws concerning quotation of copyrighted material. Each candidate will be required to certify that extensive use of copyrighted material in the manuscript is with the written permission of the copyright owner. There is a dissertation fee to cover the costs associated with processing the dissertation. The fee is not returned to the student in case of subsequent publication of the dissertation, or portions thereof, in other forms.
After its final acceptance by the Graduate Council, the dissertation is microfilmed by University Microfilms International, Ann Arbor, Michigan, from which positive microfilm copies may be ordered. The abstract is published in Dissertation Abstracts by University Microfilms International. The student may copyright the dissertation by paying an additional charge.

**Special Graduate Study**

If, after at least one year of full-time graduate study at Brown, a student wishes to pursue scholarly work which cannot be accommodated within an existing Ph.D. program, the student may apply for permission to enroll as a doctoral student in special study. This entails drafting a self-designed plan of study, submitting a petition to the Graduate Council for approval and fulfilling the general requirements of the Graduate School for the Ph.D. at Brown.

Only current graduate students or recent graduates of one of the regular graduate programs may apply for Special Graduate Study.

**Exchange Scholar Program**

Brown University participates in an Exchange Scholar Program which enables advanced graduate students to study for one or two semesters in the graduate schools of one of the other participating institutions, including the University of California at Berkeley, the University of Chicago, Columbia University, Cornell University, Harvard University, the Massachusetts Institute of Technology, the University of Pennsylvania, Princeton University, Stanford University, and Yale University. Courses taken and research conducted with particular faculty members at one of the institutions above will be registered on the academic record and official transcript at Brown. Students are eligible to be Exchange Scholars only after completing an academic year of study in a doctoral degree program at Brown. Participating students will be registered as Exchange Scholars with Brown and will hold special nondegree status at the host institution.
The Warren Alpert Medical School of Brown University

Admissions

Students interested in the study of medicine at Brown may apply through a variety of admission routes designed to create a highly qualified and diverse medical student body. Approximately one-half of the matriculants in the first-year class enroll from our eight-year continuum leading to both the bachelor’s degree and the M.D. degree. These students are joined by students entering through the standard admission route, through the M.D./Ph.D. Program, or through special programs at institutions with which the medical school has formed a linkage (early identification). These admission routes are described below. Additional information and related admission requirements may be found at http://bms.brown.edu/admissions/ or by writing or calling the Office of Admissions and Financial Aid, Brown Medical School, Box G-A212, Providence, RI 02912-9706; (401) 863-2149.

Program in Liberal Medical Education (PLME)

The Program in Liberal Medical Education is an eight-year, continuum of liberal arts and medical education leading to both the bachelor’s and M.D. degrees. The PLME is open to high school graduates who have applied to and are simultaneously admitted to Brown for their undergraduate studies. The PLME seeks highly qualified and strongly motivated high school students who are committed to a career in medicine at an early age and who also wish to pursue another area of academic interest to an advanced level of scholarship within the framework of a broad liberal education.

From a large (approximately 1,300) and highly qualified applicant pool, roughly 50 students matriculate annually. For additional information regarding the PLME, see page 129, access the website at http://bms.brown.edu/plme/, or contact the College Admission Office, Brown University, Prospect Street, Providence, RI 02912-9706; (401) 863-2378.

Standard Admission

Qualified students of any college or university may apply to the Brown Medical School through the standard route. Individuals must first complete and submit an application through the American College Application Service (AMCAS), indicating on the application that they wish to apply to Brown Medical School. See http://www.aamc.org/ for details.

The Early Identification Program (EIP)

The Early Identification Program (EIP) provides selected students at cooperating institutions with a place at Brown Medical School upon continued academic progress and college graduation. This route provides opportunities for a medical career to two groups:
• Rhode Island residents enrolled at Providence College, Rhode Island College, and the University of Rhode Island; and
• Students enrolled at Tougaloo College, a historically black, liberal arts institution in Mississippi.

Eligible students are identified by their premedical advisor in the sophomore year of college, participate in selected PLME activities, and enroll in medical school after receiving the bachelor’s degree. Generally, up to two students may be admitted annually from each school. For more information and application procedures, please contact the premedical advisor at the participating institutions.

The M.D./Ph.D. Program

The M.D./Ph.D. Program seeks students who are motivated to pursue a career in academic medicine and biomedical research. Candidates seek simultaneous admission to the medical school and to one of the following graduate programs in the Division of Biology and Medicine: Artificial Organs, Biomaterials, and Cellular Technology; Biomedical Engineering; Ecology and Evolutionary Biology; Epidemiology and Biostatistics; Molecular Biology, Cell Biology and Biochemistry; Molecular Pharmacology and Physiology; Neuroscience; or Pathobiology.

There is a unified review process which requires submission of a single M.D./Ph.D. application. Offers of admission to the Graduate School and to the Medical School are made simultaneously and must be accepted jointly. Approximately one hundred candidates apply each year for three openings. The M.D./Ph.D. Program is open to individuals who have completed their undergraduate studies or will have completed the requirements for their undergraduate degree prior to matriculation into the M.D./Ph.D. Program. Students enrolled in M.D., D.O. or Ph.D. programs at other institutions may apply, but preference is given to those who can best integrate their clinical and research experiences at Brown. Individuals who are neither U.S. citizens nor permanent U.S. residents may apply; however, financial assistance for these individuals is limited during the M.D. years of the program. Additional information regarding the M.D./Ph.D. Program may be found at http://bms.brown.edu/mdphd/index.php or by calling the M.D./Ph.D. Program, Brown Medical School, Box G-044, Providence, RI 02912-9706; (401) 863-1953.

Definition of Rhode Island Residency for Medical School Admission

An individual is considered a Rhode Island resident if he or she graduated from a Rhode Island high school and if the individual’s parent(s) have lived in Rhode Island for the previous two calendar years, as documented by federal tax returns. For dependent students, the custodial parent(s) must claim the student as a dependent on his or her federal tax returns for the prior two years. Individuals who are independent (i.e., not living with parents and filing individual federal tax returns for the previous two years) must have at least one parent residing in Rhode Island for the previous two years, as documented by federal tax returns.

Selection Factors

Students admitted to Brown Medical School must attain competence in the sciences basic to medicine at a sufficient level to provide adequate preparation for medical school. Applicants are expected to demonstrate competence by successfully completing the following premedical course requirements at a college or university in the United States or Canada: one semester of Organic Chemistry; and two semesters of Physics, Inorganic Chemistry, and
Social and Behavioral Sciences. The Medical College Admission Test (MCAT) is required for standard and M.D./Ph.D. program applicants.

All applicants are selected on the basis of academic achievement, faculty evaluations, evidence of maturity, motivation, leadership, integrity, and compassion. Applicants to the M.D./Ph.D. Program are also evaluated on the basis of their research accomplishment and potential. For the PLME, Brown seeks highly qualified and strongly motivated students who wish to pursue an area of academic interest to an advanced level of scholarship within the framework of a liberal premedical education.

In order to be eligible for consideration, candidates must present a minimum cumulative grade point average of 3.00 (on a 4.00 scale) in courses taken as a matriculated student at an undergraduate college. Applicants who have attended graduate school must achieve a cumulative grade point average of 3.00 (on a 4.00 scale) in courses taken in graduate school. Applicants must have completed requirements for the baccalaureate degree before matriculating into the medical school. All applicants must be capable of meeting the competency requirements expected of all graduates. Technological compensation can be made for some disabilities in certain competency requirements. Candidates accepted for admission who will need special accommodations cannot be admitted unless those supportive services are available, as determined by the Dean of Medicine and Biological Sciences. The processes for assessing whether applicants will be able to meet the competency requirements for the M.D. degree are described in Technical Standards for Medicine, listed below.

Brown University adheres to a policy of equal opportunity in medical education and therefore considers applicants without regard to sex, race, religion, color, national or ethnic origin, age, physical disability, or sexual orientation.

A strong affirmative action program is maintained in all admission entry routes. Brown particularly invites applications from Rhode Island residents and from members of medically-underrepresented minority groups, including African-Americans, Mexican-Americans, American Indians and mainland Puerto Ricans.

Technical Standards for Medicine

Process for Assessing Whether Applicants Meet Technical Standards for Medicine:

1. No inquiry will be made on the application forms concerning disability. Brown’s policies regarding technical abilities and skills necessary to meet the competency requirements are included with the letter of admission, and students are asked at that time to contact the Associate Dean for Medical Education if they have any concerns about their ability to meet these standards.

2. Applicants who are identified as having a disability through volunteered information, supporting credentials, or interviews will have an assessment of their ability to meet competency requirements only after a determination is made of their admissibility to the medical program.

3. Those applicants with disabilities deemed admissible to the Medical School will be requested to have submitted on their behalf appropriate documentation in regard to the disability from a qualified health professional. The health professional will be asked to provide an opinion on the candidate’s ability to meet the competency requirements for the M.D. degree. The applicant may also be requested to respond to that question.

4. The responses will be submitted to a committee appointed by the Dean of Medicine and Biological Sciences. This committee may ask for a review of the
supporting documentation by appropriate members of the faculty in regard to the applicant’s meeting the competency requirements. The committee will ascertain what accommodations, if any, the medical program would need to make in order that the applicant might be able to meet the competency requirements, and assess the feasibility of any needed accommodations.

5. The committee will review the information received to determine if the applicant will be able to meet the competency requirements, with reasonable accommodations on the part of the medical program, if necessary.

6. The committee will recommend to the Dean of Medicine and Biological Sciences acceptance of applicants who can meet the competency requirements or will recommend nonacceptance if they cannot.

Process for Assessing Student’s Ability to Continue in the Medical School Should Disability Occur After Matriculation at Brown University:

1. A student who develops a disability after matriculation at Brown University may be identified to the Medical Student Affairs Office through a variety of sources, e.g., reporting of accident or illness by peers, family, friends, or faculty and subsequent follow-up with health professionals managing the care.

2. If the degree to which the student has become disabled raises questions related to meeting the competency requirements after a review by the Associate Dean for Medical Education, a meeting of an ad hoc committee will be set up to discuss the situation. The student will be asked to meet with the committee members, unless the disability is so severe that the student needs to be represented by another individual. In some cases, it might be more appropriate to have a health professional, not directly involved in the care, serve as a consultant to the committee on the issues surrounding the disability.

3. The ad hoc committee will develop a recommendation as to the student’s ability to successfully pursue a medical education based on his or her ability to meet the competency requirements of the medical program. These educational accommodations will be discussed with the appropriate course directors to be certain that there is agreement on how the student will be managed. If facilities accommodations are recommended, the committee will discuss these with the appropriate individuals to be certain that the needs for the disabled student can be provided. The committee’s recommendations will be discussed with the student or his or her representative in the event that the student cannot attend.

4. When the recommendation is that the disabled student can meet the medical program’s competency requirements, the committee will develop a report on any educational program accommodations that, if made, will still meet the competency requirements.

5. Should the decision of the committee be to recommend to the dean that the student be dropped from enrollment in the medical program, the normal due process appeals mechanism will be in effect, and the Student Affairs Office will work with the individual as appropriate on potential alternative career options. For students in the Program in Liberal Medical Education continuum, being dropped from the program due to inability to meet competency requirements for medical education does not necessitate the withdrawal of the student from the undergraduate college if that phase of the student’s education has not been completed.
Advanced Scholarship

Medical students who wish to earn an advanced degree (M.A., Sc.M., M.P.H., Ph.D.), must meet the requirements of the Graduate School. Numerous academic departments at Brown offer graduate programs (listed in the Brown University Graduate School Catalog). All graduate studies are carried out under the supervision of a faculty member of a graduate program at Brown University and are subject to the specific requirements of that program in addition to the general guidelines given below. Students should discuss their interests and goals with a director of a graduate program in planning any study that might lead to an advanced graduate degree.

The Master of Public Health Degree

Advanced medical students and holders of the M.D. degree may complete the M.P.H. Specific requirements are described in the annual Course Announcement Bulletin.

The Master of Science Degree

Specific requirements of different programs and departments are described in the University and Graduate School catalogs.

The Master of Arts Degree

Specific requirements of different programs and departments are described in the University and Graduate School catalogs. A written thesis may be required.

Graduate Programs in Biology and Medicine

The division of Biology and Medicine offers seven programs of graduate study in which medical students can earn advanced degrees. These graduate programs are, (1) Artificial Organs, Biomaterials, and Cellular Technology; (2) Biomedical Engineering; (3) Ecology and Evolutionary Biology; (4) Epidemiology and Biostatistics; (5) Molecular Biology, Cell Biology and Biochemistry; (6) Molecular Pharmacology and Physiology; (7) Neuroscience; or (8) Pathobiology. See page 205 for a detailed description of these programs.

Educational Programs

Program in Liberal Medical Education

Brown’s Program in Liberal Medical Education (PLME) offers a unique opportunity to combine undergraduate and professional studies in medicine in an eight-year continuum. The PLME combines the open curriculum concept of the college and the competency-based curriculum of the Medical School. It encourages students to pursue their own interests (humanities, social sciences, natural sciences) in depth as they prepare for careers as physicians.

The PLME provides great flexibility in curriculum planning. During the early years of the continuum, students take courses related to their chosen concentration and to obtain a broad liberal education. In addition, students take courses designed to meet the competencies required for admission to Brown Medical School. This begins with courses
in the natural, social and behavioral sciences, and mathematics, which provide a foundation for later medical science and clinical courses.

Students may choose to work towards an A.B. or Sc.B. degree in the sciences, or to fulfill the requirements for an A.B. in the humanities, social sciences or behavioral sciences. Several interdisciplinary concentrations such as Public Policy, and International Relations are also available. The expected duration of the program is eight years. The last four years of the program culminate in the M.D. degree.

Brown’s entire faculty is available to PLME students. This access to faculty throughout the University fosters collaborative teaching and research among scholars and students from widely divergent disciplines. Although the program is characterized by the unique breadth of educational opportunities available to students, it has great strength in the conventional biomedical sciences as well.

The Medical Curriculum

The Brown Medical School is undergoing comprehensive curriculum redesign at the time of this writing. The goal of this redesign is an integrated curriculum that encompasses the basic and medical sciences during the first two, pre-clerkship years. During this time, students acquire clinical skills and the professional qualities and abilities of a physician through participation in the medical school’s Doctoring course. Years 3 and 4 of the medical school curriculum encompass core (required) and elective clinical rotations. An additional goal of the curriculum redesign is to offer students the opportunity to pursue an individualized educational plan that spans the four years of medical school.

Brown Medical School continues to employ a competency-based curriculum that began with the inauguration of the PLME in 1985. The rationale behind the competency-based curriculum stems from the need to define the outcomes of the educational process: what are the desirable qualities of a medical school graduate, and what constitutes the essential knowledge base that will enable a graduate to make a successful transition to his or her chosen medical field?

All students are expected to gain competency in the nine abilities (see below) and knowledge base by graduation. Each course within the core curriculum of the Medical School identifies which abilities and parts of the knowledge base it addresses. Students may also meet the competency requirements through individualized study, group independent study projects (GISPs), or alternative courses that might be arranged as part of collaborative learning opportunities.

Nine Abilities:

1. Effective communication
2. Basic clinical skills
3. Using basic science in the practice of medicine
4. Diagnosis, management, and prevention
5. Lifelong learning
6. Professional development and personal growth
7. Social and community contexts of health care
8. Moral reasoning and clinical ethics
9. Problem solving
Financial Information

The College—Tuition Regulations

Prior to the awarding of a baccalaureate degree, each candidate must have accumulated credit for the payment of eight semesters of tuition or the equivalent. The eight-semester tuition requirement is separate from and in addition to any other degree requirements.

1. Tuition rates are set by the Corporation of the University for each semester. Normally, the tuition rates for the two semesters of a given academic year will be the same.

2. Tuition payments for the baccalaureate degree are based on the norm of thirty-two courses, four courses in each of eight semesters. The minimum tuition requirement is eight semesters, or the equivalent. This eight-semester tuition requirement is separate from and in addition to any other degree requirements. The minimum tuition requirement for the program leading to the combined degrees of A.B.–Sc.B. is ten semesters of tuition credit. (Note: The Brown Corporation has enacted a provision allowing students in the five-year A.B.–Sc.B. program who complete all academic requirements in nine semesters to terminate their studies at that point, provided the Committee on Academic Standing (CAS) approves the breadth and quality of the student’s program. In that case, the tuition requirement is reduced to nine semesters.)

3. Payment of full-time tuition for a semester entitles the student to enroll in three, four, or five courses for that semester. For full-time degree candidates, tuition charges are set for the semester, not per course.

4. Course Credit
   a. Students who are granted credits for Advanced Placement and/or transfer credit for work completed at another college or university prior to enrollment at Brown may apply for and may be granted advanced standing and tuition credit according to the following schedule:

<table>
<thead>
<tr>
<th>Brown Semester Course Credits</th>
<th>Advanced Standing and Tuition Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>3–6</td>
<td>1 semester</td>
</tr>
<tr>
<td>7–10</td>
<td>2 semesters</td>
</tr>
<tr>
<td>11–14</td>
<td>3 semesters</td>
</tr>
<tr>
<td>15 or more</td>
<td>4 semesters</td>
</tr>
</tbody>
</table>

   b. Students who are granted Brown course credits by the Committee on Academic Standing for equivalent work completed at and transferred from another college or university after enrollment at Brown may apply for and may be granted advanced standing and tuition credit according to the same schedule as in 4(a) above. All transfer credits earned after enrollment at Brown are cumulative. Advanced standing and tuition credit for this cumulative total of transfer credits must be applied for by the student and will be awarded only in semester-equivalent blocks.

   In exceptional cases the Committee on Academic Standing may allow a student to transfer the equivalent of one or two Brown semester course credits for work completed during the regular academic year (for summer school courses, see (d) below). Tuition credit will be granted for each such course at the rate of one quarter of a full-semester credit subject to the following conditions:
i. Such courses completed while the student is not currently enrolled at Brown will become part of the cumulative total of all transfer credits earned by the student and the Table in (a) above will apply.

ii. If the courses are completed as part of a dual registration arrangement (e.g., a student who is permitted to carry a less-than-normal load of courses at Brown and to pay an appropriate reduced amount of tuition in order to pursue concurrently certain specialized courses at another institution), tuition credit for such courses will be independent of any other cumulative total of transfer credits earned by the student.

iii. Once advanced standing has been granted, a student wishing to extend his or her total period of enrollment beyond eight full-time semesters, or the equivalent, must make a special petition to the Committee on Academic Standing. In such cases tuition for each course (for the extended period) will be charged at the rate of one quarter of the full-time semester rate.

iv. Transfer credit for summer school courses is allowed in accordance with provisions established by the Faculty Rules and the Committee on Academic Standing. When such credit is awarded, no tuition credit is associated with the transfer credit granted. The academic credit awarded may not be combined in any cumulative total of transfer credits for the purpose of determining advanced standing or tuition credit.

5. Undergraduate degree candidates who successfully complete four Brown Summer School courses may apply for a waiver of one semester’s tuition. See regulations for Brown Summer Session below.

6. An eighth-semester student who owes less than a full-semester tuition credit at the beginning of the eighth semester will be charged the fraction of the full-time tuition charge for that semester which will complete the eight-semester obligation and may take an equivalent number of courses. Additional courses will be charged at the rate of one quarter of the semester’s full tuition charge.

7. Regular degree candidate students who must or choose to take courses in semesters beyond the eighth semester in order to complete requirements for the baccalaureate degree will be charged tuition at the rate of one quarter of the semester’s full tuition charge for each course enrollment.

8. Degree candidate students who are given permission by the dean to register for “short work” (one or two courses) will be charged one quarter of the semester’s full-tuition charge for each course enrollment.

9. Students in the eight-year program leading to a baccalaureate degree and the M.D. degree (Program in Liberal Medical Education) shall make four annual tuition payments at the rate fixed for the College (for years one through four) and four annual tuition payments at the rate fixed for the Medical School (for years five through eight).

10. The minimum total tuition requirement for the combined A.B./M.A.T. program will be equivalent to nine semesters of tuition. Students will make four annual tuition payments to the College during their four years of undergraduate study. During the summer of graduate
study and the internship year, tuition will be charged at the rate of one quarter of the semester tuition rate for each course taken.

11. The above regulations cover students who are candidates for a baccalaureate degree. For special students who are not candidates for a degree, a tuition charge of one quarter of the semester tuition rate will be made for each course taken.

Tuition Regulations Relating to Brown Summer Session Courses

For undergraduates, Brown Summer Session courses carry a course fee charge; they do not carry a tuition charge. Brown Summer Session courses may not be offered in fulfillment of tuition requirements on a course-by-course basis for undergraduates. Graduate students, however, do receive tuition credit because they pay a tuition charge.

A special provision of the tuition regulations enables undergraduates to offer Brown Summer Session courses, in partial fulfillment of tuition obligations, under certain specified conditions: undergraduates who have otherwise fulfilled the graduation requirements at Brown and have been enrolled in seven semesters of full-time study or an acceptable equivalent, plus have taken and passed four Brown Summer Session courses, will be granted, on request, a waiver of the final semester of their tuition obligation.

For the waiver to be granted, the student must inform the University no later than the end of the fifth semester of his or her intent to leave the University immediately after completing the approved accelerated program. Students are required to complete with credit at least thirty courses over eight semesters, including four Brown Summer Session courses equivalent to a semester of academic study.

Tuition regulations dictate that courses taken prior to matriculation may not be combined with courses taken after matriculation in order to achieve advanced standing and tuition credit; hence, Summer Session courses cannot be so combined. In a similar manner, summer courses taken elsewhere and transferred after matriculation may not be combined with Brown Summer Session courses to achieve advanced standing. The maximum number of summer courses from all sources for which a student may receive credit is four, with no more than two in the same summer.

Estimated Date of Completion (EDOC)

One goal of the present tuition regulations is to enable the University to manage enrollment in the College more effectively. It is essential that this be done to the maximum extent possible. Accordingly, all currently enrolled students are assigned an expected date of completion (EDOC). This information is sent annually to all students with instructions to confirm the assignments or to work out any necessary adjustment with the registrar. Any extension of enrollment beyond the student’s official EDOC will have to be applied for by December 1 for the spring semester and June 1 for the fall semester.

The College—Student Charges

The University reserves the right to change the rates that apply to all students whenever it is deemed advisable. Published notice of any change will normally be provided in advance.

Tuition: The annual tuition charge for the year 2006–07 is $33,888 or eight tuition units. The tuition charge for part-time and special students is $4,236, or one tuition unit, per course.
Room: The dormitory charge for the academic year 2006–07 in the undergraduate residence halls is $5,690 for regular accommodations and $6,748 for dormitory apartments/suites.

Board: All undergraduate, graduate and medical students may elect either a twenty, fourteen, ten, or seven meal contract at an annual charge of $3,444, $3,242, $2,938, or $2,686 respectively. They may also elect a twenty- or fourteen-meal Kosher meal plan at an annual charge of $4,058 or $3,856 respectively. Consistent with Brown’s commitment to the residential college, all resident undergraduates (except RUE students) are required to participate in a meal plan throughout their first full year of enrollment. Any board plan may be changed once during the first three weeks of each semester with a refund credited to the student’s University account on a prorated basis. A student may increase his or her contract participation at any time during the academic year. A fifty dollar ($50) administrative fee is charged to a student’s University account for any meal plan contract cancellation that occurs after the start of the semester. A ten dollar ($10) fee is applied for any meal plan contract change made after the start of the fall semester. Because services offered are often modified to reflect changes in student life, a current brochure is available from the food services office.

Nonresident Fee/Commuter Fee: Nonresident undergraduate students in co-ops or off-campus housing and those commuting from home are charged a $563 fee for services provided by the University such as Faunce House, security services, and off-campus information and listing services.

Health Services Fee: A $586 fee is charged all degree candidates in residence, both full and part time. This fee is designed to cover costs of providing care at Health Services from late August through Commencement. This fee does not include Health Insurance coverage.

Student Health Insurance: Charge for the academic year 2006–07 is $2,512. Mandatory participation is required in the university group health and accident insurance program for students unless a waiver of participation is granted upon submission of proof of comparable coverage. Waiver deadline is June 1.

Student Activity Fee: A $146 fee is charged to all students for the support of registered student organizations, the activities of the Undergraduate Council of Students, and the Student Union.

Readmission Fee: A $70 fee is charged to all students who reenroll at the University after having been officially separated for any reason, including leave of absence.

Late Registration Fee: A $15 fee is charged to students who register after their normal registration period. There is an additional charge of $15 per course for all registrations after the second week of classes.

Foreign Study Fee: The fee for students who receive credit at Brown for studying abroad on non-Brown programs is $1,822 for one semester or $3,644 for a year. All students studying abroad for credit must process their applications through the Office of International Programs and be approved by the Committee on Academic Standing (CAS).

Transcripts: Requests for transcripts must be made in writing by completing a transcript order form, available in Room 311 of University Hall. The fee is $4 per copy. Please allow 10 business days for completion of an order during peak periods (December, January, February and May-June). At other times, allow five business days for each request.

Property Insurance: see under Student Residences, page 630.
The College—Payment of Charges

The University bills via the student account statement for Semester I in late June and for Semester II in mid-November. Payment of tuition and fees are due by August 1 for Semester I obligations and by January 1 for Semester II obligations. Charges applied to the student account during the semester will be due upon receipt of the monthly student account statement.

Students who fail to make payment in full by the prescribed deadlines are assessed a late payment charge of 1.5% per month (an annual rate of 18%) on any unpaid balance. Outstanding balances greater than $100 will prevent a student from receiving an official transcript from the University. Outstanding balances greater than $1,000 will prevent a student from pre-registering for any subsequent semester. Students who fail to meet their financial obligation in accordance with established University regulations will have the status of their account reported to the University Student Account Committee for appropriate action, which may include cancellation of eligibility for enrollment and/or dismissal. Students expecting to receive a degree in May are required to settle their accounts by May 1 to retain eligibility for receipt of a diploma. The University reserves the right to refuse to furnish grades, transcripts, certificates, diplomas, letters of honorable dismissal or recommendations, for students who fail to pay their student account balances.

The University utilizes the service of a commercial collection agency to assist in the collection of unpaid student accounts.

Upon application, the cost of education (annual charges less anticipated aid) may be made in 12 monthly installments (June 1 through May 1). A nonrefundable $36 fee is charged for each application. The finance charge is pre-calculated and based on an annual percentage rate of 7.5% amortization of the amount financed. Payments made after the prescribed monthly deadline will be assessed a $10 late payment charge. Applications and additional information are available in the Bursar's Office or on the web at [http://www.brown.edu/Administration/Financial_Services/Bursar](http://www.brown.edu/Administration/Financial_Services/Bursar).

Checks in payment of student accounts should be made payable to Brown University in U.S. dollars and mailed to the Cashier's Office, Campus Box 1911, Providence, RI 02912. Instructions for sending payment via wire transfer are available by contacting the Cashier's Office at 401-863-2151.

The College—Refund of Annual Charges

1. Tuition
   a. A student who leaves the University during or at the end of the first semester shall not be charged tuition for the second semester.
   b. A student who leaves the University (except under conditions noted in (c) below) or changes his/her enrollment status during a semester shall be eligible for tuition payment refund during the first five weeks according to the following schedule:

<table>
<thead>
<tr>
<th>Week of Withdrawal</th>
<th>Percentage Amount of Refund</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 and 2</td>
<td>80 percent</td>
</tr>
<tr>
<td>3</td>
<td>60 percent</td>
</tr>
<tr>
<td>4</td>
<td>40 percent</td>
</tr>
<tr>
<td>5</td>
<td>20 percent</td>
</tr>
</tbody>
</table>
If a partial refund is made, no portion of the tuition paid and not refunded will be credited to the total tuition required for the degree. When no refund is made, the four tuition units paid will be credited toward the total tuition requirement for the degree, and the number of semesters to which a student is entitled for full-time enrollment will be reduced by one.

c. A student who is suspended, dismissed, or withdraws when under investigation for misconduct shall not have tuition refunded for the semester in which the action is taken.

2. Room
While residence hall rooms are rented on an academic year basis, students who leave the University or change their status to married students during or at the end of the first semester are not charged room rental for the second semester. Students who leave the residence halls during the semester are charged room rental for the balance of that semester unless the residential life office can provide a satisfactory replacement for the vacant space. A satisfactory replacement is deemed to be a student who is not currently living on campus or a student who is living in a “roomsharing” room if the total occupancy of the residence halls is in excess of normal capacity.

Prorated room refunds when applicable will be made from a schedule prepared by the Director of Residential Life and will be on file in the Office of Residential Life. A student suspended or dismissed from the University or withdrawing when under investigation for misconduct is not entitled to any refund of room rental charges for the balance of the current semester. Students seeking any further information regarding room charges and/or refunds should contact the Office of Residential Life.

3. Board
Brown Dining Services offers flexible meal plans and varied menu and service offerings. The following meal plan contract options, based on meals available per week, are available to all undergraduate, graduate, and medical students; twenty; fourteen; ten; seven; twenty Kosher/Halal; and fourteen Kosher/Halal. Consistent with Brown’s commitment to the residential college, all resident undergraduates (except RUE students) are required to participate in a meal plan throughout their first full year of enrollment.

Any students who wish to change, or upperclass students who wish to cancel their meal contract, can prior to the start of, or during the first three weeks of the fall semester. One change is permitted per semester. Meal plan contracts are in effect for the full academic year. Therefore, contracts may be changed but not cancelled during the spring semester. A credit or debit will be applied to the student’s university account based on a weekly proration of the annual contract price. Additionally, the following fee structure applies:

1. A fifty dollar ($50) administrative fee is charged to a student’s University account for any meal contract cancellation that occurs after the start of classes in the fall.
2. A ten dollar ($10) fee is applied for any meal plan contract change made after the start of the fall semester.

4. Health Services Fee
A student who leaves the University at any time after the start of the semester is not eligible for a health fee refund.

A student who leaves the University during or at the end of the first semester shall not be charged a health fee for the second semester.
5. Health Insurance Fee

Enrollment in the student health insurance plan is for a twelve-month period (August 15th to August 14th). Students who start their enrollment at Brown in the second semester are enrolled from January 15th to August 14th.

Prorated refunds are available only to students who separate from the University. Students who wish to request a prorated refund must notify the Office of Risk Management in writing within 30 days of their separation date. Details are available from the Office of Risk Management, Box 1914, (401) 863-1703.

Student account records are maintained in the bursar’s office. Questions concerning the exact amount of debit or credit balance on a student account should be directed to the bursar.

The College—Financial Aid

Through a comprehensive program of scholarships, loans, and student employment administered through the Office of Financial Aid, the University helps many students with limited funds meet their college expenses. Financial aid is based on the principle that as many well qualified students as possible should be helped to gain a university education through awards based on a careful assessment of financial need. Information concerning the program may be obtained from the following online university publication: “Applying to Brown,” at http://www.brown.edu/Administration/Admission/applyingtobrown/financialaid.html, or, directly from the Office of Financial Aid web site at http://www.financialaid.brown.edu/. All inquiries concerning scholarships, loans, and student employment should be addressed to the Office of Financial Aid, Box 1827, Brown University, Providence, Rhode Island 02912 or (401) 863-2721.

The College—Financing Alternatives

The Loan Office is the centralized department for all university-based loan programs. This office administers student loans for undergraduate, graduate and medical students. The University participates in the Federal Direct Lending program for subsidized and unsubsidized Stafford Loans and Plus Loans. In addition, the University offers alternative Parent Loans and the Tuition Prepayment Program, along with various employee loan programs. Financial counseling is available to the families of Brown students.

If you have any questions regarding these programs or require more information you may contact the Loan Office at Box 1950, Providence, Rhode Island 02912 or call (401) 863-3296.

The Graduate School—Tuition Regulations

(effective June 15, 1980)

Definitions

Annual tuition: such amount as is fixed by the Corporation of the University for a given academic year.

Tuition Unit: one-eighth of the annual tuition.
Full-time enrollment: registration for 3, 4, or 5 courses per semester, or as defined by the dean of the Graduate School.

Part-time enrollment: registration for fewer than three courses per semester, or as defined by the dean of the Graduate School.

1. Annual tuition payment entitles a student to full-time enrollment for the normal academic year and is payable in advance. Teaching fellows, teaching and research assistants, assistants, and any others holding equivalent appointments, shall pay at a maximum rate of three-quarters of the annual tuition. They will be considered to be full-time students and will be credited with a maximum of three-quarters of an annual tuition payment (or three-eighths of an annual tuition payment in the case of one-semester appointees) toward the requirement for the degree. Graduate students holding such appointments may register for no more than six courses in the academic year (three courses per semester of appointment in the case of one-semester appointees).

2. When fewer than eight tuition units (six in the case of teaching fellows, teaching and research assistants, assistants, etc.) are in a given year needed to satisfy the minimum remaining tuition requirements for a degree, charges and credits will be prorated accordingly.

If, at the beginning of any academic year, only one tuition unit is required to meet the minimum total tuition requirement, the one tuition unit will be charged in Semester I and the enrollment fee (see below) will be charged in succeeding semesters.

3. Except as noted in the next paragraph, the minimum total tuition which must be paid for a master’s degree is an amount equal to one annual tuition payment (eight tuition units), for which a student is entitled to two semesters of full-time enrollment or the equivalent. The minimum total tuition which must be paid for a doctorate is an amount equal to three annual tuition payments (twenty-four units), for which a student is entitled to six semesters of full-time enrollment or the equivalent.

If the Graduate Council approves a standard program leading to a master’s degree which requires less than three courses per semester but more than one year of the equivalent of full-time enrollment, or wherein the normal enrollment pattern is not consistent with the normal academic year (e.g., the M.A.T. program), students officially enrolled in such a program will be charged tuition at the rate of one tuition unit per course for the length of the program.

The tuition requirement must be satisfied prior to the awarding of a degree and no portion thereof will be waived. However, Ph.D. candidates who have completed all academic requirements for the degree but have spent without interruption less than the equivalent of three full years in residence, may appeal to the Graduate Council for a reduction in tuition requirements.

4. The total tuition required for a degree may, upon petition, be reduced by one tuition unit for each semester course of transfer credit (to a maximum of one tuition unit for a master’s degree, two in Integrated Programs or in 14-course master’s degree programs, and eight tuition units for a doctorate).

5. If a Ph.D. candidate applies to be awarded a degree prior to the normal accumulation of credit for the required minimum number of annual tuition payments, the unpaid balance of the minimum tuition requirement for the degree will be charged at the rate in effect during the year in which the requirements for the degree are completed.

6. In addition to those master’s candidates in approved programs provided for in 3, above, the following students will be charged tuition at the rate of one tuition unit per course:
7. Part-time degree candidates enrolled for courses.
8. Master’s degree candidates who choose or are required to enroll for courses beyond the
   period covered by the minimum tuition requirement for the degree.
9. Special students.
10. Until the tuition requirement for a degree has been satisfied, candidates for the
    doctorate who are not in residence and are not Traveling Scholars but who are writing
    dissertations or preparing for examinations in fulfillment of degree requirements must
    pay a minimum of one tuition unit per semester.
11. For students enrolled in combined-degree programs which include the M.D.
    degree, the tuition requirement for the M.D. degree covers the minimum total tuition
    requirement for the other advanced degree as follows:
        for the master of medical science—all
        for the master of science—all
        for the doctor of philosophy—eight tuition units
12. No student may take examinations, use any of the facilities of the University,
    including the services of a dissertation or thesis advisor, submit a thesis or dissertation,
    or be a candidate for an advanced degree unless properly enrolled.
    Students, both in residence and not in residence, who have fulfilled the total tuition
    requirement as stated in these Regulations, are required to pay a fee equal to 12 percent
    of full tuition for each semester in which they are enrolled to complete degree
    requirements.
    A graduate student who is registered and has paid the enrollment fee is a full-time
    student. In general, full-time enrollment will be understood to mean that at least thirty
    hours per week are being actively devoted to completion of degree requirements.
13. Enrollment privileges, other than registration for courses, will be extended beyond
    the end of one academic year to the beginning of the next academic year (that is, over
    the summer months) without additional tuition charge.
14. Students who reenroll after an approved leave of absence or a withdrawal will be
    charged a readmission fee to be set by the Corporation.

The Graduate School—Student Charges

Tuition: Tuition fees for 2006–07 are charged at the rate of $33,888 per year. Teaching
fellows, teaching and research assistants may pay at the rate of three quarters of this
amount. Students registered in the masters of arts in teaching program and those special
students who are not following a regular program of study leading to an advanced degree
will pay $4,236 per semester course. Candidates for the doctorate who are not in residence
but who are writing a thesis or preparing for examination in fulfillment of degree
requirements must pay a minimum of $4,236 per semester, unless they have already
fulfilled total tuition requirements, in which case they must pay an enrollment fee.

Every candidate for a master’s degree must pay tuition fees for the equivalent of one
year of full-time study. Every candidate for the doctorate must pay tuition fees for the
equivalent of three years of full-time study. See (4) under Tuition Regulations concerning
reduction of tuition requirements for the degree.

Enrollment Fee: Students, both in residence and not in residence, who have fulfilled the
total tuition requirements, as stated above, are required to pay a fee equal to 12% of full
tuition for that semester and each additional semester as long as they are registered to complete degree requirements. No students may use the university facilities (including the services of a thesis advisor) unless properly registered. Those students who are returning to the University from a leave of absence solely for the purpose of filing a thesis or dissertation and who meet all established criteria, may if approved by the Graduate School, pay a filing fee of $150 in lieu of the enrollment fee.

*Thesis Fee:* A fee of $50 is required at the time of final acceptance of the doctoral thesis.

*Late Registration Fee:* A fee of $15 is charged for late course registration.

*Room:* The 2006–07 academic year charge for a room in Miller Hall is $5,690. Students who cancel their contract after the effective date of occupancy are charged room rental for the balance of the contract period unless the University can provide a satisfactory replacement.

*Health Services Fee:* A mandatory fee of $586 is charged all degree candidates, both full and part-time. This fee is designed to cover the costs of health services facilities (Andrews House) and it does not include health insurance coverage, pharmacy, x-rays or laboratory fees.

*Student Health Insurance:* Charge for the academic year 2006–07 is $2,512. Participation in the university group health and accident insurance program is mandatory for all students. A waiver of participation may be granted upon submission of proof of comparable coverage.

*Student Activity Fee:* A $20 fee is charged to all graduate students for the support of registered student organizations and the activities of the Graduate Student Council.

*Readmission Fee:* A $70 fee is charged to all graduate Students who reenroll at the University after having been officially separated for any reason, including leave of absence.

*Transcripts:* Students, former students and graduates who request transcripts of their academic records must complete a transcript order form available in Room 311 of University Hall. The fee is $4 per copy. Please allow 10 business days for completion of an order during peak periods (December, January, February and May-June). At other times, allow five business days for each request. Students are advised to pay attention to their own deadlines and plan accordingly to insure timely receipt. Students may arrange to have transcripts mailed via Federal Express at their own expense. However, for reasons of information privacy the transcript office cannot send facsimiles of transcripts. 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. A student who wishes to have course performance reports sent out with a transcript should provide copies of all the material to be enclosed at the time he or she requests an 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.
The Graduate School—Refund of Annual Charges

Provisions for the refund of annual charges in the Graduate School are the same as for refunds for the College—see page 135.

The Graduate School—Financial Support

Brown University recognizes merit and financial need as appropriate criteria for the awarding of financial aid to graduate students. Accordingly, all applicants for fellowships, teaching fellowships, teaching assistantships, assistantships, scholarships, proctorships, and loan assistance from the University who are U.S. citizens or permanent residents of the U.S. are required to submit the FAFSA (Free Application for Federal Student Aid).

The Graduate School Catalogue contains detailed information about various Fellowships, Scholarships and Assistantships.

Traveling Scholar (in absentia) Registration

Advanced graduate students may request permission from the Graduate School to register for a semester or an academic year as a Traveling Scholar in order to conduct full-time research or fieldwork in a location removed from Brown. Traveling Scholar registration is renewable for not more than one additional year. The student’s department must certify to the Graduate School that the research or fieldwork to be done away from Brown is necessary for the completion of the degree program. Students on Traveling Scholar registration are considered full-time students. Applications for Traveling Scholar registration are due in the Graduate School by August 1 for Semester I or the academic year, and by December 15 for Semester II. The fee for Traveling Scholar registration is currently set at 6.25% of half the annual tuition per semester.

The Graduate School—Payment of Charges

The University bills via the student account statement for Semester I in late June and for Semester II in mid-November. Payment of tuition and fees are due by August 1 for Semester I obligations and by January 1 for Semester II obligations. Charges applied to the student account during the semester will be due upon receipt of the monthly student account statement.

Students who fail to make payment in full by the prescribed deadlines are assessed a late payment charge of 1.5% per month (an annual rate of 18%) on any unpaid balance. Outstanding balances greater than $100 will prevent a student from receiving an official transcript from the University. Outstanding balances greater than $1,000 will prevent a student from pre-registering for any subsequent semester. Students who fail to meet their financial obligation in accordance with established University regulations will have the status of their account reported to the University Student Account Committee for appropriate action, which may include cancellation of eligibility for enrollment and/or dismissal. Students expecting to receive a degree in May are required to settle their accounts by May 1 to retain eligibility for receipt of a diploma. The University reserves the
right to refuse to furnish grades, transcripts, certificates, diplomas, letters of honorable dismissal or recommendations, for students who fail to pay their student account balances. The University utilized the service of a commercial collection agency to assist in the collection of unpaid student accounts.

Upon application, the cost of education (annual charges less anticipated aid) may be made in 8 monthly installments (October 1 through May 1). Graduate students newly enrolled or re-enrolled in Semester II may pay in 4 monthly installments (February 1 through May 1). A nonrefundable $36 fee is charged for each application. Graduate students whose only expense for the academic year is student health insurance may choose to pay using either the 4 or 8 month installment payment plan. A nonrefundable $10 fee is charged for each application. Applications and additional information are available at the Bursar's Office or on the web at http://www.brown.edu/SFS/Bursar.

Checks in payment of student accounts should be made payable to Brown University in U.S. dollars and mailed to the Cashier's Office, Campus Box 1911, Providence, RI 02912. Instructions for sending payment via wire transfer are available by contacting the Cashier's Office at 401-863-2151.

Medical School—Tuition and Financial Aid

Tuition

The tuition for the first four years of the program is the same as that of the College. Tuition for the last four years of the PLME is somewhat higher than the College tuition, but consistent with other private medical schools. Tuition is determined each year by vote of the Brown Corporation.

Financial Aid

Brown University is strongly committed to providing access to the College and to the Medical School for students of all income levels. In 2006-2007, nearly 3,100 undergraduates annually receive about $73 million worth of financial assistance, in one form or another, from a variety of university and outside resources. In addition, approximately 260 medical students receive nearly $11 million of assistance, primarily from scholarship and loan programs administered by the Medical School or the federal government. During the first four years of the program, financial aid is available to PLME students on the same terms and through the same channels as for all undergraduate students at Brown. During the last four years of the PLME, financial aid is awarded by the Medical School.

While the primary responsibility for payment of medical education rests with each student and his or her family, the Medical School provides financial aid from several sources, including scholarships, low-interest, subsidized loans, unsubsidized loans, and part-time employment (undergraduate students only). Both scholarships and loans are available throughout the eight years, although loans are the more common form of financing in the medical school years.

The basis for awards is financial need. The only exceptions to this policy are scholarships and fellowships awarded to M.D./Ph.D. students and certain scholarships and prizes which, by the expressed intent of the donor, are based on academic excellence.
Applicants with specific questions about financial aid during the first four years of the program should contact the College Financial Aid Office (401-863-2721). Applicants with questions about financial aid during the last four years should contact the Medical School Admissions and Financial Aid Office (401-863-1142).

**Medical School—Student Charges**

*Tuition:* The 2006–2007 annual tuition fee for the medical school is $36,192. The annual charge does not cover courses taken in the summer preceding the first year of medical school or between the first and second years of medical school.

*Definitions:*

  - **Tuition unit**—one-tenth of the annual tuition.
  - **Full-time enrollment**—registration for two or more courses per semester, or as defined by the dean of medicine.
  - **Half-time enrollment**—registration for less than two courses per semester, or as defined by the dean of medicine.

*Health Services Fee:* For the 2006–2007 academic year, a mandatory fee of $586 is charged all degree candidates. This fee is designed to cover the costs of health services facilities (Andrews House) including most prescription drugs, x-rays and laboratory fees. This fee does not include health insurance coverage.

*Student Health Insurance:* Charge for the academic year 2006–2007 is $2,512. Mandatory participation is required in the university group health and accident insurance program for all medical students unless a waiver of participation is granted upon submission of proof of comparable coverage. Waiver deadline is June 1.

*Student Activity Fee:* For the 2006–2007 academic year, a $60 fee is charged all medical students for the support of registered student organizations and the activities of the Medical Student Senate.

*Readmission Fee:* A $60 fee is charged to all medical students who reenroll at the University after having been officially separated for any reason, including leave of absence.

*Transcripts:* Students, former students, and graduates who request transcripts are subject to the advance payment of a fee of $4 for each order. As noted below, transcripts will be issued only if all financial obligations to the University have been met.

*Medical Student Fellow Fee:* With the approval of the Dean of Medicine, medical students may be excused from attending classes to participate in research activities under faculty supervision for a designated period of no less than one semester and no more than two years. Such students are authorized to use Brown University educational resources (e.g., the libraries), but are not permitted to register for any courses.

The fee for the status shall be $100 per semester. (Such students may retain their Brown ID card and have it validated upon payment of the fee.) Students on Medical Student Fellow status are certified as full-time students to agencies that might otherwise require repayment of their student loans. Contact the Student Affairs Office for additional information (401-863-2441.)

*Payment of Charges:* Payment regulations are the same as those of The Graduate School. See The Graduate School—Student Charges.
Medical School—Refund of Annual Charges

Adjustment of annual tuition charges will be made for any student in the medical school who withdraws officially or who is dismissed for academic reasons, subject to the following provisions:

**Years I and II**

Students who leave the Medical School prior to the beginning of the second semester shall not be charged tuition for the semester. Students who leave the Medical School during either Semester I or II shall be eligible for a refund of the normal charge for that semester (50% of the annual charge for the Medical School) during the first five weeks of the semester according to the following schedule:

<table>
<thead>
<tr>
<th>Week of Withdrawal</th>
<th>Refund Percentage</th>
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<tr>
<td>First two weeks</td>
<td>80%</td>
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<tr>
<td>Third week</td>
<td>60%</td>
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<tr>
<td>Fourth week</td>
<td>40%</td>
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<tr>
<td>Fifth week</td>
<td>20%</td>
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**Years III and IV**

The academic program for the third year of the Medical School is divided into four clerkship periods of approximately thirteen weeks each. Students who leave the Medical School during or at the end of the first clerkship period shall be refunded 75% of the total annual charge. Students who leave the Medical School during or at the end of the second clerkship shall be refunded 50% of the total annual charge. Students who leave the Medical School during or at the end of the third clerkship shall be refunded 25% of the annual charge. Students who leave the Medical School during or at the end of the fourth clerkship period are not eligible for refunds.
Divisions, Departments, Centers, Programs, and Institutes

General Information

Types of Courses Offered

There are several types of courses available at the University as follows:

*Departmental courses* (including those offered by divisions, centers, and programs), page 149.

Extradepartmental *University Courses*, page 606.

*Independent study plans*:
  - Independent study projects, including internships, page 608.
  - Group study projects, page 609.

Information concerning these courses will be found on the pages indicated, including course descriptions as appropriate; however, specific time schedules are not available in this bulletin. The University will, each spring, make available course offering information for the following academic year via the Banner Records and Registration System, available through the Brown web site at: [http://www.brown.edu](http://www.brown.edu), as well as in the form of periodic printed course schedules. Reference should be made to these sources for the courses offered each semester and for the times at which they are given.

Course information is subject to change. The University reserves the right to add or delete courses of instruction at any time without notice.

Unit of Credit

The semester course is the unit of credit. This is defined as one fourth of a student’s normal program of academic work for one semester and for purposes of evaluation may be considered the approximate equivalent of four semester hours.

Course Numbering System

Effective Summer 2007, the course number system is being changed. Courses open only to undergraduates and formerly numbered 1 to 99 will henceforth be numbered from 1 to 999. Courses open to undergraduate and graduate students and formerly numbered 100 to 199 will henceforth be numbered 1000 to 1999. Courses open to graduate students and, by special arrangement, to undergraduates and formerly numbered 200 to 299 will henceforth be numbered 2000 to 2999. Courses open only to students enrolled in the Medical School and formerly numbered 300 and above will henceforth be numbered 3000 and above.
The courses listed in this bulletin are ordered by the numbering system in effect in the bulletin’s publication year (academic year 2006-2007) and reflect the earlier numbering system. The courses’ new numbers appear in parentheses after the traditional number. Also effective Summer 2007, the abbreviations that represent the area of study in a course code will change from two letters to four. Below is a table of the traditional two letter codes and their replacements.

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<th>Traditional Code</th>
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<td>JUDS</td>
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</table>
KO KREA Korean
LA LATN Latin
LM LAST Latin American Studies
LR LITR Literary Arts
MA MATH Mathematics
MC MCM Modern Culture and Media
ME MES Middle East Studies
MG MGRK Modern Greek
MS MDVL Medieval Studies
MU MUSC Music
PB POBS Portuguese and Brazilian Studies
PH PHYS Physics
PL PHIL Philosophy
PP PPAI Public Policy and American Institutions
PS POLS Political Science
PY PSYC Psychology
RS RELS Religious Studies
RU RUSS Russian
SA SANS Sanskrit
SC SCSO Science and Society
SI SIGN American Sign Language
SL SLAV Slavic
SO SOC Sociology
SP HISP Hispanic Studies
SW SWED Swedish
TA TSDA Theatre Speech and Dance
UC UNIV University Courses
US URBN Urban Studies
VA VISA Visual Art

Course Availability
With very few exceptions, the courses of instruction listed in this bulletin have been offered within the past five years. Courses not offered in the past three years are marked by a superscript dagger (†) after the course title. It is hoped that these provisions will assist students in determining what courses they are most likely to have available to them during their careers.

Year Courses and Two-Semester Sequences
A dash between course numbers (for example, French 10–20) indicates a year course in which the grade at the end of the first semester is normally a temporary one; 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. If the second half of a year course is not completed by the end of an academic year, the grade for the first semester will become a No Credit. If the student completes the second part of a year course during a later academic year, he or she may need to notify the Office of the Registrar 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.

A comma between course numbers (for example, Physics 21, 22) indicates a two-semester course, the first semester of which is normally prerequisite to the second semester. Two independent grades are submitted, one at the end of each semester.

**Liberal Learning Courses**

The Liberal Learning course list was created to assist students in undertaking a broad and coherent course of study consistent with the goals of a liberal education. Courses designated “Liberal Learning” are an established part of the Brown curriculum. They are grouped under this rubric because they provide an introduction to the many ways of approaching knowledge that define a liberal education. Liberal Learning courses emphasize synthesis rather than survey and focus on the methods, concepts, and values employed in understanding a particular topic, theme, or issue. They may use either the modes of thought of a single discipline or an interdisciplinary approach, but they share the common goal of introducing students to distinctive ways of thinking and of constructing, communicating, and discovering knowledge. Building on Brown’s conviction that liberal education requires that students be actively involved in their own educations, the pedagogical emphasis of Liberal Learning courses is on active student involvement; they therefore typically entail extensive student participation through such activities and exercises as papers, projects, reports, and class discussion.

Liberal Learning courses are identified by the initials “LL” following their descriptions in the annual *Course Announcement Bulletin*.

The list of Liberal Learning courses is extensive and broadly representative of Brown’s many such offerings, but it is not necessarily exhaustive. As students plan their programs of study with their academic advisors, they are encouraged to consult the *Guide to Liberal Learning*, published by the Office of the Dean of the College, which includes a section on Liberal Learning courses. Included in the Guide is a listing of the Liberal Learning courses organized according to a series of categories, goals, and principles that students should strive to meet when pursuing their undergraduate educations. These categories are meant to be used as advising tools and are designed to supply a suggestive framework for planning a program of study.

**Diversity Perspectives**

In addition to courses designated as Liberal Learning courses, the *Course Announcement* includes others that are designated as Diversity Perspectives (DP) courses. These courses represent the dedication of the Brown faculty to examine knowledge from perspectives of groups often not represented in traditional disciplines. Two kinds of courses have the DP designation:

1. Courses that treat, primarily or at least substantially, the knowledge and experience of previously underrepresented groups; or
2. Courses that examine the ways in which disciplines, histories, and paradigms of knowledge are reconfigured by the study of diversity-related intellectual questions

**First Year Seminars**

First Year Seminars (FYS) represent an ideal way to begin your education at Brown. They have few if any prerequisites; feature close relationships between students and
members of the faculty; introduce you to challenging ways of thinking and sophisticated methods of research and problem solving; offer the opportunity to receive frequent feedback on your written and oral performance in the classroom and generally facilitate the kind of active learning and open intellectual inquiry characteristic of Brown.

**Center for Advanced Materials Research**

The Center for Advanced Materials Research was established in 1989 as an independent academic unit at Brown. Its goal is to coordinate and facilitate research and education in materials sciences across the campus, as well as to foster inter-institutional scholarship and study of modern materials by advanced experimental and theoretical tools. The center is an umbrella organization, presently anchored within several engineering disciplines and the departments of physics and chemistry at Brown, with developing links to biology and biomedical sciences.

The organizational and administrative purpose of the center is threefold:

1. To catalyze and enable multi-investigator, interdisciplinary faculty research teams in modern materials sciences, to enhance the development of such programs, and to provide effective operation within a block research grant framework.
2. To administer several central research laboratory facilities, including the Electron Microscope Facility, Microelectronics Facility, and the Joint Engineering Physics Instrument Shop (JEPIS machine shop). These facilities provide essential resources for undergraduate courses from several science departments and for Ph.D. thesis research.
3. To explore the development of interdepartmental educational programs in modern materials science education both on and off campus. These include the Institute for Elementary and Secondary Education’s annual institute “Thinking with Stuff.” In addition, the center sponsors an educational outreach program through the National Science Foundation Materials Research Science and Engineering Center (MRSEC) block research program. This MRSEC program currently includes a summer research experience for undergraduates and a K–12 school visitation program offering advanced materials science demonstrations.

The center welcomes inquiries, especially in the areas of scientific issues and the availability of its sophisticated laboratory facilities. The Center for Advanced Materials Research is directed by Professor William Curtin, Professor of Engineering.

For additional information, please visit the center’s website at: [http://www.brown.edu/Departments/Advanced_Materials_Research/](http://www.brown.edu/Departments/Advanced_Materials_Research/)

**Africana Studies**

Professors B. Anthony Boques, Paget Henry, Rhett S. Jones, Tricia Rose, John Edgar Wideman; Associate Professors James T. Campbell, Anani Dzidzienyo, Elmo Terry-Morgan; Assistant Professors Keisha-Khan Y. Perry, Corey D. B. Walker; Adjunct Professor Brenda Allen; Visiting Professors Ama Ata Aidoo, Charles E. Cobb, Jr., Donald W. King, George Lamming, Clarice L. Thompson.
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The Africana Studies Program at Brown is a scholarly site for professors and students with numerous disciplinary and interdisciplinary interests. The research and teaching tasks of the faculty are concerned in the broadest sense with the African diasporic experience in the United States of America, the Caribbean and Latin America, as well as Africa. Courses are also offered in the culture and society of the United States, Brazil, the Caribbean, and various regions of Africa. The faculty have expertise in such diverse areas as Anthropology, Cultural Politics, Drama, Ethnomusicology, Folklore, History, Literature, Psychology, Religions, Sociology, Philosophy, Political Theory, Feminism, Intellectual History and Critical Theory. All faculty members have research and teaching specialties related to the impact of slavery, colonialism, and racialism on the modern world, and they also have interests in other areas of research and study.

Central to the work of the department is the role of Rites and Reason, its research theatre and performing arts component. Artists collaborate closely with scholars in various disciplines to discover the underlying harmonies between academic and artistic perceptions of the world around us. Rites and Reason provides the program with important means of interaction with the various academic and nonacademic communities of Greater Providence.

The department has a history of commitment to participation in the life of the various African-American cultures of Greater Providence, and provides opportunities for students to become involved in the activities of their respective communities. Interested students should consult with the faculty.

The faculty are involved in international collaborative research projects on the African diaspora with the Center for African Studies at the University of South Africa – Cape Town, and the Center for Caribbean Thought at the University of the West Indies.

The Brown University libraries provide numerous opportunities for original research in the subjects for which the program provides training. The John Hay Library has the Harris Collection on American Poetry, Popular Entertainment and Plays, the McClellan Lincoln Collection, and the Metcalf Collection of pamphlets. The John Carter Brown Library has probably the best collection in this hemisphere of works published in and about the New World before the nineteenth century. The libraries are particularly outstanding for their extensive holdings in the areas of slavery, colonialism, and race relations. Microfilm collections include the FBI files on Martin Luther King and Malcolm X, as well as the papers of W. E. B. Du Bois, Alexander Crummell, and Carter G. Woodson.

Undergraduate Program

For a complete description of the standard concentration program leading to the A.B. degree, please visit: http://www.brown.edu/Administration/Registrar/concentration.html

Graduate Program

Numerous dissertations have been written on various aspects of the African diaspora by students at Brown. Faculty of the department direct research through several cooperating departments, and it is also possible to earn the Ph.D. in Africana Studies through the Special Studies program. Interested persons should contact the chairperson of the department for details.

For more information, please visit the department’s website at: http://www.brown.edu/Departments/Africana_Studies/index.html
Courses of Instruction

Primarily for Undergraduates

6. *Intro to Playwriting Workshop* (Theatre, Speech and Dance 6)
Interested students should register for Theatre, Speech and Dance 6.

9. (0090) *An Introduction to Africana Studies*
This course introduces students to the discipline of Africana Studies by critically exploring and analyzing the links and disjunctures in the cultural, economic, political, and intellectual practices and experiences of Africans and persons of African descent throughout the African diaspora. The course features an interdisciplinary approach in developing the conceptual, theoretical, and analytical frameworks necessary for study in the field. C. D. B. Walker.

10. (0100) *An Introduction to Afro-American Studies*
See An Introduction To Afro-American Studies (AA0009) for course description. The Staff.

11. (0110) *Freshman Seminar Series*

   (0110A) *Facing the Past: The Politics of Retrospective Justice*
   History is characterized by many forms of gross injustice, as well as by efforts to prevent, redress, or make amends for them. This seminar examines a series of case studies in retrospective justice, including war crimes tribunals, truth and reconciliation commissions, national apologies, and reparations movements, as well as the work of Brown’s recent Steering Committee on Slavery and Justice. Enrollment limited. Written permission required. J. Campbell.

   *Race in Medicine and Public Health* (Biology and Medicine 10)
   Interested students should register for Biology and Medicine 10.

   *Race in Science, Medicine, and Public Health* (Biology and Medicine 10)
   Interested students should register for Biology and Medicine 10.

   *Race, Slavery, Modernity and Knowledge*
   This course will review some of the central texts that constitute the different meanings of modernity and discuss how these texts became part of our framework for thinking about modernity, the human self and its different representations. The course will also engage texts that make attempts to complicate the meanings of modernity through a set of engagements with the issues of slavery, colonialism and race. Some key words in the course are: modernity, knowledge production, double-consciousness, social construction of race, racial slavery, coloniality. Enrollment limited. Written permission required. B. A. Bogues.

16. (0160) *Twentieth-Century Africa* (History 96)
An introduction to recent African history, the course combines chronological and topical approaches. It is organized around the major epochs of colonialism, decolonization and post-colonial independence, but within those periods, we will concentrate on themes such as health, environment, development, the state and artistic expression. Readings draw heavily on primary sources. Three exams and two projects, including group work. N. J. Jacobs.
17. (0170) Afro-American History and Society Before 1800 (Ethnic Studies 17, History 96)
Focuses on the history of Africans and persons of African decent in the part of North America that now constitutes the U.S. Centers on the 18th century, but gives some attention to the 17th and 19th centuries as well. Most of the readings are devoted to the English colonies, but some concern themselves with Dutch, French, and Spanish settlements. R. S. Jones.

18. Topics in Africana Studies†

19. (0190) Caribbean History and Society Before 1800† (History 96)
Examines some of the themes important in the multiracial societies of the Caribbean from the 17th through the early years of the 19th century. Explores Creole societies, plantation economies, ethnicity, maroon societies, class and racial divisions, acculturation, syncretic religions, and patterns of slave resistance. Danish, Dutch, English, French, and Spanish settlements are studied. R. S. Jones.

20. (0200) Caribbean History and Society since 1800
This course will critically examine five themes in modern Caribbean history and society: What is the Caribbean? Nationalism, religion, economic development, and popular culture. These themes will be discussed with reference to the different geographical, racial, cultural and political spaces, which comprise the Caribbean. B. A. Bogues.

21. (0210) Blacks in Latin American History and Society (Ethnic Studies 21)
Explores the role of blacks in the national histories and societies of Latin America, with specific attention to slavery, race relations and their domestic and external implications, race and class, and political and cultural movements among blacks. A. Dzidzienyo.

36. (0360) Africana Philosophy and the African Novel
We will examine a representative selection of African novels with a view to charting the development of the genre from the double heritage of the oral tradition in Africa and the literate conventions of the West. The African novel will be studied in relation to the impact of European colonialism, social and cultural change, and post-colonialism. The Staff.

56. (0560) Psychology of the Black Experience
This course is designed to facilitate understanding of African American psychological experiences. We begin by critically reviewing historical approaches to the psychological study of Black people. We then shift to an examination of the themes, and research currently being generated by those involved in the quest for scholarly self-definition and for redefinition of the psychological fabric of the Black experience. B. A. Allen.

57. (0570) 20th Century Black Feminist Thought and Practice in the U.S.
This course will explore the ways that black women in the U.S. have experienced racial and gendered discrimination as well as what sorts of strategies (e.g., political, intellectual, narrative and creative) black women have devised in response. We will be especially concerned with elements of African-American feminist thought and its articulation in writings, music, literature and practice/activism in the 20th century U.S. T. Rose.

60. (0600) Race, Gender and Urban Politics
This course will introduce students to the methods and practice of studying black urban life with a primary focus on U.S. cities. We will critically examine the urban cultural studies debates concerned with race, gender, class and sexuality. The approach of the course will be interdisciplinary, drawing upon works from anthropology, literature, history, music, and film. Topics include tourism, immigration, poverty, popular culture, gentrification, violence and criminalization. K. Y. Perry.
62. (0620) *African-American Life in the City*
This course examines the social and cultural history of black urban communities by examining the foundation of black communities in Chicago, New York and Los Angeles. We will: examine how migration and the intersections of race, class, culture, and gender shape life in urban places; reveal the structural forces that define black urban communities; and explore urban African-American expressive forms. T. ROSE.

65. *Black Atlantic Narratives of Africa* (English 65)
Interested students should register for the appropriate section of English 65.

70. *Introduction to African American Literature, 1742–1920*
(English 70, Ethnic Studies 35)
Interested students should register for English 70.

71. (0710) *Topics in Africana Studies*

76. (0760) *Topics in Africana Studies*

(0760A) *Rastafarianism*
This course explores the philosophy, history, politics, and theology of Rastafari, one of the Caribbean’s most influential and misunderstood liberation movements. B. A. BOGUES.

79. *Afro-Latin Jazz Ensemble* (Music 79)
Interested students should register for Music 79.

80. *Afro-Latin Jazz Ensemble* (Music 80)
Interested students should register for Music 80.

81. *African American Literature and Slavery* (English 80)
Interested students should register for the appropriate section of English 80.

85. (0850) *The Politics of Gender in the Caribbean Novel* (English 79)
This course will examine 20th Century Caribbean Literature as a genre, which poses challenges to colonialism and raises profound questions of sovereignty. It will examine how Contemporary Caribbean Literature contributes to the world of literature in general. G. LAMMING.

88. (0880) *From Be-Bop to Hip Hop: Evolution of a Music*
This course is a study of the impact of changing social attitudes and cultural manifestations in America on the development of African-American music from the Be-Bop Movement (early 1940s) to the Hip-Hop Movement (late 1990s). Enrollment limited. D. W. KING.

99. (0990) *Black Lavender: A Study of Black Gay and Lesbian Plays and Dramatic Constructions in the American Theatre* (Theatre, Speech and Dance 99)
An interdisciplinary approach to the study of plays that address the identities and issues of black LGBT people and offers various perspectives from within and without the black LGBT artistic communities. Focuses on analysis of unpublished titles. Also includes published works by Baraka, Bullins, Corbett, Gibson, Holmes, West, and Pomo Afro Homos. Some evening screenings of videotapes. Enrollment limited. Written permission required. E. TERRY-MORGAN.

For Undergraduates and Graduates

101. (1010) *Special Topics in Afro-American Studies*

102. (1020) *Special Topics in Africana Studies*
(1020C) The Afro–Luso–Brazilian Triangle (Ethnic Studies 165, Portuguese and Brazilian Studies 160)
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. A. DZIDZIENYO.

(1020B) Freedom in Africana Political Thought (Political Science 182)
This course will be a comparative analysis of freedom as a central value in political thought. It will do this by comparing the knowledge and practices of freedom to slaves in the Haitian Revolution, the ideas of freedom in the Civil Rights Movement, and then finally the conceptions of freedom in South Africa. B. A. BOGUES.

105. (1050) Seminar in Africana Studies
(1050A) Advanced RPM Playwriting (Theatre, Speech and Dance 128)
E. TERRY-MORGAN.
African Environmental History (History 197)
Interested students should register for the appropriate section of History 197.

(1050G) Black Women’s Political Autobiography
How black women in the United States and elsewhere have written about their lives in autobiographies will be the focus of this course. We will discuss black women’s use of autobiographical writing to document their own individual experiences in political movements as well as to provide key insights into how black people throughout the black diaspora have organized in recent history. K. Y. PERRY.

Comparative American Slavery (History 197)
Interested students should register for the appropriate section of History 197.

(1050C) Gendered Perspectives on Borders, Violence and Refugees
Staff.

(1050H) Introduction to Post–Colonial African and African Diasporic Theatre
This class will explore the theatrical works and ideology of a selected group of playwrights from Africa, the Caribbean, and the United States. It will focus on the ways in which these artists have creatively and syncretically responded to varied forms of colonization and creolization while paying attention to the post–colonial social and historical context that continues to impact and influence these modes of artistic production. D. KING.

(1050D) Intermediate RPM Playwriting (Theatre, Speech and Dance 128)
E. TERRY-MORGAN.

(1050E) Introduction to RPM Playwriting (Theatre, Speech and Dance 128)
E. TERRY-MORGAN.
106. (1060) Seminar in Africana Studies

(1060A) Africa since 1950
This seminar considers the recent African past historically, but with an emphasis on subaltern subjects. We begin with general discussions about the discipline of history. Turning to the recent past in Africa, our particular focus will be on the challenges of subaltern history, including the problems of sources, of subalterns as subjects, and of generalizing subaltern experiences. Enrollment limited. Written permission required. N. J. Jacobs.

(1060G) Black Radical Tradition
This advanced seminar in Africana philosophy will explore the contours of insurgent forms of Africana social and political philosophy. With a temporal focus on the twentieth century, we will concern ourselves with explicating the dominant themes, theoretical orientations, and methodological understandings that inform constructions and articulations of the varieties of Africana feminism/womanism, black nationalism, Marxism–Leninism–Maoism, Pan–Africanism, and radical democracy. Enrollment limited. Written permission required. C.D.B. Walker.

(1060C) Contemporary African Philosophy
An examination of some of the most influential work on problems of identity and being, theology and theodicy, time and history, method and evaluation, race and racism, postcoloniality and liberation in contemporary African philosophy. Readings include the work of Anthony Appiah, Frantz Fanon, Kwame Gyekye, Pauline Hountondji, D.A. Masolo, John Mbiti, Kwame Nkrumah, Léopold Senghor, Tsenay Serequeberhan, among others. Staff.

(1060F) Philosophy and Race
This advanced seminar in Africana philosophy will examine critical texts and thinkers that articulate the problems, methods, and techniques for interrogating the interrelationships between the discourse of philosophy and modern conceptions of race. The seminar will move to consider contemporary engagements in this area by drawing on readings and thinkers from analytical, continental, feminist, marxist, and pragmatist philosophical traditions. Enrollment limited. Written permission required. C.D.B. Walker.

(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. A. Dzidzienyo.

From the publication of The Souls of Black Folk in 1903 until his death in Ghana sixty years later, W. E. B. Du Bois remained one of America’s most penetrating analysts of what he called “the color line.” Students read and discuss a selection of Du Bois’s writings from his career as journalist, essayist, sociologist, historian, poet, political leader, and pioneering Pan-Africanist. Prerequisite: one course in AC, AF or US History. Written permission required. J.T. Campbell.
Interested students should register for Ethnic Studies 107.

111. (1110) Voices Beneath the Veil (Theatre, Speech and Dance 111)
Plays written by Afro-American playwrights and presented on the American stage between 1858 and the 1990s are examined as cultural and historical documents of Afro-American realities. Supplementary readings from the humanities and social sciences provide critical framework for in-class discussions and student papers. Enrollment limited. Written permission required. E. TERRY-MORGAN.

112. (1120) African American Folk Traditions and Cultural Expression (Music 112, Theatre, Speech and Dance 112)
A research, development, and performance workshop designed to explore, examine, and articulate various folk traditions and cultural expressions of African Americans. Readings include slave narratives, folktales, and the works of Hughes, Hurston, Bass, and Baraka. Topics covered are music as the African American language of choice; Africanisms in Afro-American culture; and race, color, class, gender, and culture. Enrollment limited. Written permission required. THE STAFF.

113. (1130) Black Feminist Thought
Examines the historical contributions and contradictions of African American protofeminists and contemporary African American feminists and womanists. Emphasizes political critiques and theological writings. Examines historical contributions to black feminist thought; contemporary intersectional analyses of race, class, gender, sexuality, and ideology; and political advocacy and religiosity in contemporary womanist theology. Enrollment limited. Written permission required. THE STAFF.

114. (1140) Women, the State and Violence† (Ethnic Studies 187)
Examines the role of black women in 20th-century political movements, including with the turn-of-the-century antilynching campaigns, the southern civil rights movement, the black liberation movement, and contemporary educational activism for human rights. Central concerns include history of American radicalism and analyses of antiracist experiences, and the politics stemming from African American women’s leadership. Prerequisites: AF 150 and/or AF 125. Enrollment limited. Written permission required. THE STAFF.

115. (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. P. HENRY.

120. African Cinema (Modern Culture and Media 120)
Interested students should register for the appropriate section of Modern Culture and Media 120.

121. (1210) Afro-Brazilians and the Brazilian Polity (Portuguese and Brazilian Studies 121)
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. A. DZIDZIENYO.
123. **Studies in Ethnomusicology: West African Traditions in American Music and Dance** (Music 123)
Interested students should register for the appropriate section of Music 123.

126. **The Organizing Tradition of the Southern Civil Rights Movement**
This seminar aims to fill in some of the gaps of the official canon by emphasizing that the modern (1954–1966) southern civil rights movement was not as it is mainly portrayed, a movement of mass protest in public spaces led by charismatic leaders; but rather, a movement of grassroots community organizing - quiet day-to-day work. **THE STAFF.**

128. **Writing about Race in the Post Civil Rights Era**
This seminar is an explanation of the transformation of racial policies, relations and rhetorics since the end of the civil rights era in the United States. We will examine the complex ways race has remained central to U.S. society and yet has dramatically shifted, examining terms such as color-blind society; integration; political race; racialized (and gendered) community formation. Enrollment limited. Written permission required. **T. ROSE.**

136. **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. **B. A. BOGUES.**

141. **Africans and the West: Studies in the History of Ideas** (Political Science 136)
This course will examine the political thought of a selection of Africana thinkers from the period of slavery to the 20th century. It will examine the political thought of thinkers like, Franz Fanon, Ida B. Wells, Cugoano, CLR James, W.E.B. DuBois and Rastafari. The course will be an exploration of black radical intellectual tradition and its different meanings. **B. A. BOGUES.**

144. **Theorizing the Black Diaspora**
This seminar will focus on the theorization of the black diaspora as a way to explore the various articulations of 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. Enrollment limited. Written permission required. **K.Y. PERRY.**

145. **Developing the RPM Songbook** (Music 149)
This Research-to-Performance Method workshop is designed for students of all musical and singing skills. The course examines the history and diversity of African-American music. The course includes the rudiments of reading music, developing a music vocabulary; spontaneous and studied music creation. Written permission required. **THE STAFF.**

147. **Southern African History** (History 147)
Interested students should register for History 147.

154. **Black Popular Cultures**
This course is an historical and topical examination of the development of black popular cultures. We will explore the debates about popular culture and specifically examine the ways that race (as well as gender, sexuality and class) shape these debates. In addition we will explore specific black popular cultural practices (music, dance, film, radio, theater,
etc.) as well as the larger contexts for their production and reception. Enrollment limited. Written permission required. T. ROSE.

158. (1580) Contemporary African Women's Literature (English 176)
The aim of the course is to introduce students to some of the major prose female writers in contemporary African Literature. Enrollment limited. Written permission required. A. A. AIDOO.

160. (1600) History, Nation, Popular Culture and Caribbean Politics
Examines Jamaican popular music as an ideological site of resistance to Creole nationalist versions of Caribbean history and politics. It grapples with the meanings of race, history, and nation-state as contested notions in Jamaican/Caribbean society tracing an alternative genealogy of Caribbean history and politics. B. A. BOGUES.

171. Topics in Africana Studies
   African American Women Novelists (English 171)
   Interested students should register for the appropriate section of English 171.
   Harlem Renaissance (English 171)
   Interested students should register for the appropriate section of English 171.

174. African American History, 1876 to the Present
(American Civilization 174, Ethnic Studies 174)
Interested students should register for American Civilization 174.

176. Topics in Africana Studies
178. Colonialism, Imperialism, and Public Health in Africa: Past and Present (Biology and Medicine 192)
Interested students should register for the appropriate section of Biology and Medicine 192.

180. (1800) Race, Empire and Modernity (Ethnic Studies 180, Political Science 151)
Taking Cicero’s notion of empire as “ways of life”, this course will survey the history of empires as forms of rule. It will explore how race has been deployed in the various types of empire. The course will pay particular attention to empires in modernity since 1942. The course will think about the various technologies of rule and their discourses of power. B. A. BOGUES.

182. (1820) Contemporary African Political Philosophy
This course examines some contemporary responses to the human condition in Africa. Topics will include Democracy, human rights, instability, social justice, identity, community and solidarity. These topics will be approached through the works of Canonical figures such as Leopold Senghor, K. Nkrumah, Frantz Fanon, Steve Biko and the recent analytical (T. Kiros), Hermeneutical (T. Serequeberhan), Existential (L. Gordon) Historicism and poeticism (P. Henry) and Postcolonial Mislocation (M. Diawara). P. HENRY.

185. (1850) The Civil Rights Movement: History and Legacy (American Civilization 161)
Explores the origins, conduct and complex legacy of the Civil Rights Movement. Topics include: historical roots of the movement; the campaign against legal segregation; the birth of S.N.C.C.; Black Power; the impact of the Cold War, Vietnam and the coming of African independence; and the movement’s impact on other political struggles, including movements among women, Latinos, and Native Americans. Enrollment limited. Written permission required. J. T. CAMPBELL.

190. Topics in Africana Studies
191. (1970) *Independent Reading and Research*

This is a thematic course on the philosophical and literary themes which emerge from the Caribbean novel and writing in general. Enrollment limited. Written permission required. G. LAMMING.

196. *Gender Worlds*† (Gender Studies 196)
Interested students should register for the appropriate section of Gender Studies 196.

197. *Red, White, and Black in the Americas*

198. *Missionaries and Mullahs: African Encounters with Christianity and Islam*† (History 197)
Interested students should register for the appropriate section of History 197.

199. (1990) *Foucault in Africana Thought*†
This seminar consists of close readings and discussions of the thought of Michel Foucault, one of the most influential French thinkers of the 20th century, and his impact on the thought of Africana thinkers such as V.Y. Mudimbe, Cornel West, Molefi Asante, Sylvia Wynter, Paget Henry, Joy James, and B. Anthony Bogues. THE STAFF.

**Center for Alcohol and Addiction Studies**

**Celebrating 24 Years of Bridging the Gap in Addictions Research and Education**

The Center for Alcohol and Addiction Studies, through its affiliation with the Brown Medical School, occupies a unique position within the University. The center brings together more than 90 faculty and professional staff across eleven University departments and seven affiliated hospitals to promote the identification, prevention, and effective treatment of alcohol and other drug use problems in our society through research, education, training, and policy advocacy.
The Center’s faculty members have active research programs in the areas of the neurobiology of alcohol, nicotine and other substance use, behavioral genetics, cross addictions, smoking among substance abusers, alcohol/drug treatment and assessment, adolescent nicotine and substance use and dependence, technology transfer and policy. The Center has most recently created a neurobiology core of scientists whose focus is identifying the neurobiological pathways associated with alcohol and drug abuse and dependence using both human and animal models.

Research and education are the Center’s chief activities. To expand its commitment to substance abuse education and to train the next generation of researchers, the Center has established a postdoctoral training program in alcohol treatment and early intervention research. Since 1985, more than 77 Fellows have completed the training program and gone on to pursue academic and research careers at major institutions nationwide. The Center recently established similar postdoctoral training in drug abuse prevention and intervention, and in juvenile forensic psychology.

For further information, please visit our website at: www.caas.brown.edu.

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**American Civilization**

Faculty in the Department of American Civilization include Professors Barton St. Armand (American Civilization and English), Mari Jo Buhle (American Civilization and History), Lynn Davidman (American Civilization and Judaic Studies), Elliott Gorn (Chair, American Civilization and History), and Steven Lubar (American Civilization); Associate Professors James T. Campbell (Africana Studies, American Civilization and History), Matthew Garcia (American Civilization, Ethnic Studies, and History), Arlene Keizer (American Civilization and English), Robert Lee (American Civilization), Patrick M. Malone (American Civilization and Urban Studies), Richard A. Meckel (American Civilization), Ralph Rodriguez (American Civilization and Ethnic Studies), and Susan Smulyan (American Civilization); Senior Lecturer Robert Emlen (American Civilization) and Senior Lecturer and Visiting Associate Professor Beverly Haviland (American Civilization); Senior Lecturer Paul Buhle (American Civilization).

The Department of American Civilization at Brown University encourages the interdisciplinary study of the diverse cultures, groups, and experiences that make up American life. As one of the oldest American Studies programs in the nation, its students and faculty represent a community of innovative scholars committed to defining new directions in research, teaching across the disciplines, and reaching out to diverse audiences.

**Undergraduate Program**

For a complete description of the standard concentration program leading to the A.B. degree, please visit [http://www.brown.edu/Administration/Registrar/concentration.html](http://www.brown.edu/Administration/Registrar/concentration.html).

**Graduate Programs**

The graduate program in American Civilization provides students with rigorous training in the methods of interdisciplinary work while allowing them the freedom to follow their own academic interests and goals. Graduate students design their own courses of study within
the guidelines set up by the department, working with faculty both in the department and
throughout the university. Recent graduate students have been doing exciting new work in
areas as diverse as African American history, Asian American and Latino culture and
politics, childhood development, public history, transitional popular culture, film, material
culture, religion, and the history of sexuality and gender.

The primary goal of the graduate program in American Civilization is to train students to
become knowledgeable and productive scholars and public humanists who will
significantly contribute to the communities in which they work and live. The program
produces graduates who are:

- knowledgeable about the changing and complex intellectual landscape of the
  modern university;
- originators of new and innovative research across the disciplines; and
- part of a new generation of active and committed teachers and public humanists.

Recent graduates of the department have gone on to work in archives, museums, and
historical societies, as well as a variety of college and university departments including
history, English, women’s studies, communications, and American studies.

Master of Arts in American Civilization

Under special circumstances, students may seek a terminal A.M. degree in American
Civilization. Candidates spend one academic year in residence and complete eight courses.
This program is most appropriate for international students. All students who seek
admission to the terminal A.M. program in American Civilization must first communicate
with the Director of Graduate Studies. Most students seeking an A.M. degree should apply
to the A.M. in Public Humanities.

Master of Arts in Public Humanities

Candidates for the A.M. in Public Humanities undertake a two-year program, generally two
years of course work, including two practicums. Working with the faculty of the
Department, they will design a course of study that will prepare them with the skills needed
for a career in public humanities (for example, museums, historic preservation, community
cultural development) as well as a solid academic preparation in the subject areas of
interest. There are three required classes (an introduction to American Civilization, an
introduction to public humanities, and methods of public humanities). In addition, all
students will undertake two practicums.

Doctor of Philosophy

Students in the Ph.D. program spend their first year taking eight courses, one of which must
be an introductory seminar. Upon successful completion of these courses, they are awarded
an A.M. in American Civilization. Students may opt for an A.M. in Public Humanities
instead of the A.M. in American Civilization. The A.M. in Public Humanities calls for an
internship, usually taken during the summer after the first year, and additional coursework
taken during the second year. In their second year, Ph.D. students complete one graduate
professionalization seminar and one graduate research seminar as well as begin preparing
for their preliminary examinations. Students select four faculty to be on their examination
board and design with each a bibliography in the specific field of study on which they will
be tested. The four proposed fields, along with a statement of their unifying themes or
elements, are then submitted to the department faculty for approval. In the third year,
students are examined by their four field advisors in a two-hour oral examination. After passing the preliminary examination and completing the required coursework, students are advanced to candidacy for a Ph.D. With the approval of the American Civilization faculty, each student begins the doctoral dissertation under the guidance of a thesis director and two readers chosen from the university faculty. Students are expected to complete the research and writing of their dissertations within five years. In order to receive the Ph.D. in American Civilization, students are also required to gain teaching experience. They serve as teaching assistants to faculty or, when possible, teach undergraduate seminars of their own design within the Department of American Civilization.

For additional information, please visit the Department website at: http://www.brown.edu/Departments/AmCiv/

Courses of Instruction

Primarily for Undergraduates

15. (0150) First Year Seminar
Restricted to first-year students. Enrollment limited. Written permission required.

19. (0190) Seminar in American Civilization
Restricted to first-year students and sophomores. Enrollment limited. Written permission required.

75. (0750) Introduction to American Civilization

For Undergraduates and Graduates

125. (1250) Topics in Material Culture Studies

(1250A) American Folk Art
Examines material expressions of folk culture in America from the 18th century to the present. Focuses on the study of regionally idiosyncratic artifacts decorated beyond necessity and emphasizes the importance of the cultural context in which they were made and used. Visits to local burying grounds and museum collections during class and a Saturday field trip. Concludes with an original research project and a final paper. R. P. EMLEN.

(1250B) Gravestones and Burying Grounds
Students examine gravestones and burying grounds as primary documents in the study of American cultural history. Themes include the forms of written language and visual imagery in colonial New England, changing roles of women and minorities in society, historical craft practices, implications of stylistic change, attitudes towards death and bereavement, and the material evidence of discrete cultural traditions. Include field trips. R. P. EMLEN.

(1250F) Houses and their Furnishings in Early America
Old houses and the objects used to furnish them are interpreted as material evidence of domestic life in colonial and early national America. Through slide lectures and field trips, this class examines Providence’s historic buildings, museum collections, and public archives as primary documents in the study of cultural history. R. P. EMLEN.
(1250E) The Neoclassical Ideal in America, 1775-1840
This course examines the art, architecture, and domestic furnishings of America in the early national period. It focuses on material culture as a reflection of the new nation’s self image as a democratic and enlightened society. Includes class visits to local burying grounds and museum collections, and a Saturday Boston field trip. R. P. EMLEN.

152. (1520) Technology and Material Culture in America: The Urban Built Environment (Urban Studies 152)
A slide-illustrated lecture course that examines the development of the urban landscape. Covers American building practices and the effects of human-made structures on our culture. Examines technological and behavioral aspects of architectural design and urban development. Topics include housing, factories, commercial buildings, city plans, transportation networks, water systems, bridges, parks, and waterfronts. At least one field trip. A companion course to AC 153. P. M. MALONE.

153. (1530) Technology and Material Culture in America: The Automobile in American Life (Science and Society 153, Urban Studies 153)
Examines the cultural significance of the automobile. Employs materials and methodologies from various disciplines to study this machine and the changes it has produced in our society and our landscape. Slide lectures cover such topics as the assembly line, automobile design, roadside architecture, suburbs, auto advertisements, and the car in popular culture. P. M. MALONE.

155. (1550) Methods in Public Humanities
A survey of the skills required for public humanities work. Presentations from local and national practitioners in a diverse range of public humanities topics: historic preservation, oral history, exhibition development, archival and curatorial skills, radio and television documentaries, public art, local history, and more. Includes field trips to museums and other sites in the Eastern United States. S. D. LUBAR.

161. (1610) Special Topics in American Civilization
(1610C) American Popular Culture
This interdisciplinary course examines the history of popular culture in the industrialized United States, drawing on methodologies from different fields, and using a variety of evidence, including minstrel song sheets, amusement parks, television, and romance novels. We look at the audience, the producers and the texts presented by American popular culture both domestically and internationally. S. SMULYAN.

(1610E) Americans Abroad
Explores the image of the American artist and expatriate in an international and interdisciplinary context. Lectures, class discussions, reports and papers. B.L. ST. ARMAND.

(1610G) Asian American History
A survey of the history of Asians in the U.S. from the early 19th century to the present. Focuses on the changing patterns of immigration, labor, community building, and civil rights struggles. R. G. LEE.

(1610J) Body and Soul: Health and Sexuality, 1860-1920
Examines the history of women/gender in relation to discourses about sexuality (both physical and mental) in the era of the Civil War through the progressive era. It samples a variety of ideas and movements, including efforts to regulate sexuality and initiatives
to advance women into the medical and “helping” professions. Specialization is given to issues of class, race and ethnicity. M. J. BUHLE.

(1611R) Bourgeois Blues: Class Conflict in African American and Caribbean Literature and Film
This course investigates class differentiation and its effects in African-diaspora novels, autobiographies, and films (such as The Good Negress, Brothers and Keepers, Crick Crack Monkey, and “Sugar Cane Alley”). Alongside these literary works and films, we will read a wide range of critical/theoretical essays on class and class conflict and the intersection between class and race, gender, sexuality, and nationality. A. R. KEIZER.

(1611P) Converts, Drop-Outs and Returnees
This course focuses on processes, practices and meanings involved as people move into and out of religious communities. America has been called a “supermarket of religious alternatives”; here we will examine the impact of this religious marketplace and people’s freedom to choose their own religions in terms of their decisions to convert to and/or deconvert from various religious groups. L. DAVIDMAN.

Guns and Graphics: The Detective Novel and Comic Book in the United States
Popular genres like the detective novel and comic book are compelling and widely circulated markers of the political and social concerns of a culture. These concerns, of course, vary over time. Being historically vigilant, then, we will survey a variety of detective fiction and graphic novels to examine the political imperatives and cultural aesthetic at play in them. R. E. RODRIGUEZ.

(1611U) History of American Technology
Technologies reflect and transform American society and culture. This course examines the invention, introduction, and use of new machines and systems, with a focus on infrastructure, manufacturing, and information and communication technologies. Special attention paid to labor, business, political and cultural contexts of technological change. S. D. LUBAR.

(1610S) Immigration to the United States from the Sixteenth Century to the Present
Explores 350 years of immigration to what is now the U.S. Organization is both chronological and topical. We will reconstruct and compare the major waves of immigration, consider casual theories of migration, examine U.S. immigration policy over time, debate the economic impact of immigration, and discuss the institutions and strategies that immigrants have designed to facilitate adaptation. R. A. MECKEL.

(1611J) Sex, Love, Race: Miscegenation, Mixed-Race and Interracial Relations
This class will explore the conditions and consequences for crossing racial boundaries in North America. We will take a multidisciplinary approach, exploring literary, anthropological, and historical writings along with several feature and documentary film treatments of the subject. M. J. GARCIA.

(1611L) The Sixties without Apology
Encompasses what happened to social movements and American society in the “sixties”. How the “sixties” have come to represent a phase of society in rebellion against political and economic structures and against widely held values on sexuality, drugs, and fashion, as well as race, class and gender. Film and television clips, music, poetry and comic strips will be used extensively. P. BUHLE.
164. (1640) History of American Women since 1880† (History 188, History 196)
This course introduces students to the major themes of United States women’s history from the 1880’s to the present. We will look at the experiences of a diverse group of women in the United States as well as the ideological meaning of gender as it evolved and changed over the 20th century. We will trace the impact multiple identities (race, class, region, religion) have had on women’s social and cultural activism.

170. (1700) Interdisciplinary American Seminar
Usually taken in the junior year, this seminar is required of all concentrators in American Civilization.

American Studies: Junior Year Seminar
This course is designed to immerse entering American Civilization concentrators in the underlying theories, methods and approaches of American Studies in the hope of providing them with a general understanding of the field’s essential parameters and thus enabling them to navigate with some coherence a multidisciplinary concentration. S/NC. R. A. MECKEL.

Examines the history of African Americans from the end of Reconstruction to the present. Topics include: the retreat from Reconstruction and the coming of Jim Crow; Booker T. Washington and his critics; migration and the rise of urban ghettos; the Harlem Renaissance; the Civil Rights movement; the “War on Poverty”; and the contemporary welfare debate. J. T. CAMPBELL.

180. (1800) Honors Seminar†
Required of American civilization concentrators planning to write an honors thesis. Written permission required. S/NC.

190. (1900) Undergraduate Seminars in American Civilization
These seminars are primarily for juniors and seniors. Undergraduates only. Priority will be given to senior and junior concentrators in American civilization. May be repeated for credit. Enrollment limited. Written permission required.

192. (1970) Independent Reading and Research
Required of all honors candidates in the senior year.

Primarily for Graduates

201. (2010) Introduction to Interdisciplinary Methods
Introduction to interdisciplinary studies required of all first-year graduate students in American civilization. Graduate students from other departments may enroll with permission of the instructor. R. G. LEE.

222. (2220) Topics in American Studies
Psychoanalysis in/and African American Literature and Culture (English 276)
Interested students should register for English 276.

250. (2500) Museum Interpretation of the American Experience
A seminar examining methods of museum interpretation, the ways that museums convey information to the public with exhibits, tours, demonstrations, films, video tapes, slide shows, interactive computer programs, publications, and other techniques. We will visit
museums that have an historical or anthropological focus and read theoretical and critical
writings on the public interpretation of American material culture. P. M. MALONE.

252. (2520) *American Studies: Method and Theory*
Examines the methodological and theoretical underpinnings of current and past American
studies scholarship. Designed for American civilization graduate students. S/NC.
S. SMULYAN.

255. (2550) *Theorizing Asian America†*

260. (2600) *Readings in African American History and Culture* (Africana Studies 260,
Ethnic Studies 260)
Introduction to the burgeoning scholarly literature on African American history and
culture. Topics examined include: blacks in the Atlantic World; origins of North American
slavery; race and the American Revolution; emancipation and its aftermath; the Jim Crow
south; the Great Migration; Garveyism; the Harlem Renaissance; the Civil Rights
Movement; and race in American popular culture. J. T. CAMPBELL.

265. (2650) *Introduction to Public Humanities*
This class, a foundational course for the MA in Public Humanities, 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. S. D. LUBAR.

267. (2670) *Practicum in Public Humanities*
Practicums in public humanities provide practical, hands-on training that is essential for
careers in museums, historic preservation, and cultural agencies. Students will work with
faculty to find appropriate placements and negotiate a semester’s or summer work, in
general a specific project. Available only to students in the Public Humanities M.A.
program. THE STAFF.

268. (2680) *Practicum in Public Humanities*
Practicums in public humanities provide practical, hands-on training that is essential for
careers in museums, historic preservation, and cultural agencies. Students will work with
faculty to find appropriate placements and negotiate a semester’s or summer work, in
general a specific project. Available only to students in the Public Humanities M.A.
program.

269. (2690) *Public Humanities Institutions: A Systems Perspective*
What does it take to run a public humanities institution? This course explores the “behind
the exhibits” systems of planning, administration, governance, revenue generation, finance
and marketing. Throughout the course, students will explore the challenges/tensions that
develop between fulfilling the mission and developing sustainable organizations.

289. (2970) *Preliminary Examination Prep*
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. No course
credit.

292. (2920) *Independent Reading and Research*

299. (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. No course credit.
Divisions, Departments, Centers, Programs, and Institutes / 167

Ancient Studies

The mission of the program is the comparative study of the history, literatures, and religions of Mediterranean, and West, South, and East Asian antiquity before the Arab conquest. The program is administered by a Director (Professor Raaflaub, Classics) and an executive committee composed of representatives of various departments, centers, and programs. For additional information regarding the Program in Ancient Studies, please visit: http://www.brown.edu/Departments/Ancient_Studies/.

Undergraduate Program

For a complete description of the standard concentration program leading to the A.B. degree, please visit http://www.brown.edu/Administration/Registrar/concentration.html.

Courses of Instruction

Primarily for Undergraduates

25. Death in the Greek & Biblical Traditions† (Classics 21)
Interested students should register for the appropriate section of Classics 21.

26. The Meaning of History in the Ancient World† (Classics 21)
Interested students should register for the appropriate section of Classics 21.

99. War and Society in the Ancient World (Classics 56)
Interested students should register for Classics 56.

For Undergraduates and Graduates

100. (1000) Concentrators Seminar
Seminar for concentrators in ancient studies (juniors and seniors). Topics changing every year. Other interested students admitted with permission. Taught by faculty from academic units participating in ancient studies.

101. Ancient Law (Classics 177)
Interested students should register for Classics 177.

112. Comparative Themes and Topics
Disability in Antiquity (Religious Studies 188, Judaic Studies 198)
Interested students should register for Religious Studies 188.

Food and Drink in Classical Antiquity (Archaeology and the Ancient World 77, Classics 77)
Interested students should register for Archaeology and the Ancient World 77.

Jewish and Christian Women in Antiquity (Religious Studies 188)
Interested students should register for Religious Studies 188.

Jews and Judaism in the Greco-Roman Mediterranean (Judaic Studies 198, Religious Studies 188)
Interested students should register for Judaic Studies 198.

Kings, Courts, and Aristocracy (Anthropology 135)
Interested students should register for Anthropology 135.

Myth and Origins of Science (Philosophy 131, Classics 112, Science and Society 112)
Interested students should register for Philosophy 131.
The Shaping of the Classical World: Greeks, Jews, and Romans (History 100, Classics 100, Judaic Studies 100)
Interested students should register for History 100.

Slavery in the Ancient Worlds (Classics 112, History 196)
Interested students should register for Classics 112.

Who Owns the Classical Past? (Archaeology and the Ancient World 155, Classics 155)
Interested students should register for Archaeology and the Ancient World 155.

Religion and Gender in the Ancient Mediterranean†
(Religious Studies 188)
Interested students should register for the appropriate section of Religious Studies 188.

191. (1970) Individual Study Project
192. (1990) Thesis Preparation
Required of seniors in the honors program.

Annenberg Institute for School Reform

The Annenberg Institute for School Reform develops, shares, and acts on knowledge that improves the conditions and outcomes of schooling in America, especially in urban communities and in schools serving disadvantaged children. The institute’s programs focus on three broad areas that, together, significantly impact equity and excellence in schooling: (1) teaching and learning supports – offering strategies and tools to help educators examine and improve instructional practices in ways that enhance student achievement; (2) systems support – helping districts build capacity for supporting high-performing schools systemwide and form local partnerships to expand educational opportunities; and (3) civic supports – bringing municipal leaders and community members to the forefront of local efforts to transform their public schools. In collaboration with other education reform organizations, the institute conducts research and development, convenes stakeholders on issues of urban education, catalyzes and supports local action, and disseminates the results of its work.

Established at Brown in 1993, the institute received that same year a gift of $50 million as part of Ambassador Walter H. Annenberg’s $500-million “challenge” to public education. The institute is accountable to a board of overseers appointed by the University Corporation. Some 45 professional and administrative staff work at the institute. Warren Simmons is the executive director.

Additional information may be found at: [http://www.annenberginstitute.org/](http://www.annenberginstitute.org/).

Anthropology

Professors D. Anderson, Fruzzetti, Gould, Heath, Hollos, Houston, Joukowsky (emeritus), Kertzer (Provost), Krech, Leis, Lutz, McGarvey, Simmons (Chair), Warren; Associate Professors Gutmann, Rubertone, Townsend; Assistant Professors Brink, Danan, Smith; Adjunct Professor W. Anderson; Adjunct Associate Professor Symonds; Associate Professor (Research) Brown; Post. Docs Hamdy.
Graduate instruction in the Department of Anthropology prepares students for professional careers in sociocultural anthropology, archaeology, and linguistics as teachers, researchers, museum specialists, and as professionals in other areas where anthropological expertise may be required. The faculty have wide-ranging, yet overlapping and complementary, theoretical and methodological interests. They have conducted field research throughout the world—in Africa, North America, Latin America, the Arctic, Europe, the Middle East, Asia, Oceania, and Australia. The faculty are also active in various extradepartmental units at Brown, including the Haffenreffer Museum of Anthropology, The Population Studies and Training Center, The Watson Institute for International Studies, Laboratory of Circumpolar Studies, John Carter Brown Library, Joukowsky Institute for Archaeology and the Ancient World, Center for the Study of Race and Ethnicity, and Division of Biology and Medicine, which provide support for interdisciplinary research. The areas with particular programs or concentrations of faculty in which graduate student applications are particularly encouraged include:

**Anthropology and Population.** A research specialization of several faculty in the department and a special track in the Ph.D. program. Birth and reproduction, marriage and sexual relations, migration and movement, and illness and death are crucial demographic events and are also processes of central and long-standing interest to sociocultural anthropologists. Students in the anthropology and population track study these events and processes by taking courses in population studies and in anthropological demography as well as the core courses of the department’s curriculum. They also work closely with faculty affiliated with the multidisciplinary Population Studies and Training Center.

**Politics and Culture.** In part through its multiple links to the Politics, Culture, and Identity program of the Watson Institute, the department offers special training in the anthropological analysis of modern political life. Of special interest is understanding how people’s political identities are formed, and the symbolic processes through which political reality is constructed. Also of interest are issues of militarization, political violence, democratization and foreign aid, and war.

**Archaeology.** The analysis of variability and change in human culture through the study of the physical remains of the past. Brown’s archaeology program is based on the study of prehistory, historical archaeology, and ethnoarchaeology, the two latter examining variability in the recent past. Prehistory, especially in areas like the Arctic, North America, Asia, Australia and the Pacific, Mesoamerica, and the Near East is well represented and provides a focus on the remote past.

**Ethnicity, Race, and Nationalism.** Faculty in the department research and teach about ethnic and racial identities and formations, genocide, cultural citizenship, transnationalism, mestizaje, and racism. Specific strengths include the integration of ethnicity, race and nationalism in research on gender/sexuality, population, and politics. The department works closely with the Center for the Study of Race and Ethnicity in America at Brown. Many faculty and students conduct research in local communities on issues of race and ethnicity.

**Gender/sexuality.** Many faculty study aspects of gender identities, relations, and inequalities through contemporary ethnography and ethnohistorical research. Among the numerous topics of research are gender/sexuality systems, fertility and reproduction, gender and health, parenthood, engendered bodies, feminism, men and masculinities, gender and race, and gender and development.
Medical Anthropology. The anthropological study of human health, which examines the complex interaction of biology and culture, explores the diverse ways that humans use cultural resources to cope with illness and develop medical systems. Medical Anthropology intersects with a range of faculty interests and areas of expertise. Faculty research and course offerings address issues such as HIV/AIDS, reproduction, gender and health, psychology and health, population dynamics and health, international health programs, and American biomedical and public health practice.

Museum Studies. In conjunction with the Haffenreffer Museum of Anthropology (see page 565), the department offers a special program leading to the master’s degree in anthropology–museum studies as an option for Ph.D. students. In addition to core courses and other requirements of the regular A.M. program, students take two seminars on the study, analysis, and exhibition of material culture, and on museological study and practice.

Undergraduate Program

For a complete description of the standard concentration program leading to the A.B. degree, please visit http://www.brown.edu/Administration/Registrar/concentration.html.

Graduate Programs

Students are admitted to the A.M., Ph.D. program. All requirements for the master’s degree should be completed in two years, and after gaining permission to continue for the Ph.D., all requirements for the doctoral degree should be met within an additional five years.

A.M. in Anthropology

Students must gain credit for eight approved courses, obtain passing grades on comprehensive examinations, and demonstrate research and analytical skills in an approved research paper.

A.M. in Anthropology/Museum Studies

In addition to meeting the requirements for the regular A.M. degree, students must take two specialized seminars, and their research paper must be in some way museum-related. This degree takes advantage of Haffenreffer Museum of Anthropology collections and activities.

Ph.D. in Anthropology

In addition to fulfilling the general requirements set by the Graduate School, students must successfully complete A.M. degree requirements and gain permission to continue for the doctorate. They must write an acceptable proposal for and pass the preliminary examination; teach at least two semesters as teaching assistant or have comparable experience; fulfill the foreign language requirement; prepare an acceptable proposal for doctoral research; and write and successfully defend the dissertation.

The Preliminary Examination is an oral examination lasting approximately three hours and administered by a student’s faculty advisor and committee. It should be taken during the fifth or sixth semester (that is, the first or second semester after the completion of the A.M. degree requirements). Its purpose is to enable the faculty to evaluate a student’s mastery of anthropological literature and ability to explain in detail the ways in which his or her interests relate to the discipline as a whole. The examination is based on a detailed proposal which consists of sections of narrative and bibliography. In the narrative the student
describes (1) at least one area (but often two) of methodological and theoretical interest such as archaeological method and theory, gender, historical archaeology, ecological anthropology, anthropological demography, ethnicity, etc., drawing on world-wide literature; and (2) the ethnography or archaeology of at least one major world area (e.g. sub-Saharan Africa) and the theoretical problems pertinent to that area. When the preliminary examination is successfully completed, the student becomes a doctoral candidate.

Teaching Experience is most often gained by serving as a Teaching Assistant for at least two semesters.

Foreign Language. By the time the student begins the dissertation research project, he or she is expected to have acquired the necessary language skills for the field site. The preparation might require courses in other departments or cross-registration at another university. At any rate, means by which the language skills are to be acquired and proficiency evaluated are to be discussed with the student’s committee well before the dissertation proposal is presented to the committee. Foreign students must also demonstrate a knowledge of English and pass TOEFL with a score of 550 or better.

Other Skills. Students are expected to acquire the background and skills necessary for undertaking a major research project for the dissertation, as determined in collaboration with their Ph.D. committees. This may require further language training, statistics and computer language training, or specialized archaeological field techniques.

The Dissertation Research Proposal should be accepted by a student’s committee prior to applications to research foundations for support, normally in the third year in the program. It becomes a basis for original field research and for the doctoral dissertation and its defense. Students carry out field research anywhere in the world for variable periods of time but usually approximately one year.

The Dissertation and Defense. The dissertation committee consists of at least four faculty members—three from inside and one from outside the department. Detailed instructions for preparing dissertations are available at the Graduate School.

For additional information, please visit the Department’s website at: http://www.brown.edu/Departments/Anthropology/.

Courses of Instruction

Primarily for Undergraduates

10. (0100) Cultural Anthropology: Understanding Human Societies
(ethnic studies 12)
This course examines what it means to be human in different cultures. We will study a range of theories and methods used to study culture, including ethnography, the intensive and personal study of cultures that is a hallmark of anthropology. We will learn how anthropology contributes to understanding social problems like racism, genocide, disease, militarism, and social inequalities of all kinds. M. C. Gutmann.

20. (0200) Culture and Human Behavior
The goal is to challenge our beliefs about some taken for granted assumptions about human behavior and psyche by examining cultures with different conceptions of personality, self and cognition. Will examine the issues of the role of nature and nurture in development, the nature of intelligence, coming of age, the association of psychological characteristics with gender and the naturalness of emotions. M. C. Hollos.
23. (0300) *Culture and Health* (BioMed-Community Health 23)
An introduction to Medical Anthropology, the course explores the complex interaction of
culture and biology as it affects human health. Examines the social construction of health
and illness across cultures using ethnographic case studies representing a wide range
human experience in domestic and international contexts. Emphasizes the social, political,
and economic context in which health and behavior and health systems must be understood.
D. J. SMITH.

25. (0400) *Growing Up Ethnic and Multicultural* (University Courses 56)
Explores the complex issues of growing up as an ethnic, bicultural, or a multicultural
person and how these dual or multiple identities affect or interact with individual behavior,
priorities, the sense of self, and how individual identity is formulated and defined. Cross-
cultural and interdisciplinary approaches combining anthropology, comparative human
development, interethnic communication, life history, and literary works are used.
Enrollment limited. Written permission required. W. W. ANDERSON.

31. (0310) *Human Evolution* (BioMed-Community Health 24)
Examination of theory and evidence on human evolution in the past, present and future.
Topics include evolution and adaptation, biocultural adaptation, fossil evidence, behavioral
everation in primates, human genetic variation and contemporary human biological
variation. S. T. MCGARVEY.

40. (0110) *Anthropology and Global Social Problems*
The course introduces anthropology approaches to some of the central problems humans
face around the world, including environmental degradation and cultures of consumption,
hunger and affluence, war, racial division and other forms of inequality. C. A. LUTZ.

50. (0500) *Discovering the Past: Introduction to Archaeology and Prehistory*
What is archaeology and how has it contributed to the study of past human history and
present-day human behavior? Basic principles and methods of archaeological research are
presented. With emphasis on varieties of archaeology (prehistory, historical archaeology,
literate civilizations, ethnoarchaeology, maritime archaeology, forensic archaeology) and
on accounting for variability in prehistoric societies. R. A. GOULD.

52. (0520) *Classic Mayan Civilization* (Archaeology and the Ancient World 5)
Examines the history, culture, and society of the Classic Maya, with special emphasis on
Preclassic precursors, dynasties, environmental adaptation, imagery, architecture, urban
form, and the Maya collapse. S. D. HOUSTON.

55. *Introduction to Islamic Archaeology*
(Archaeology and the Ancient World 60,
History of Art and Architecture 48, Religious Studies 60)
Interested students should register for Archaeology and the Ancient World 60.

56. (0560) *Archaeology of Anatolia* (Archaeology and the Ancient World 36)
Offers an archaeological survey of Anatolian civilization including an analysis of the
settlements, history, art, architecture, and characteristics of specific sites and their artifacts,
from prehistoric to Hellenistic periods. THE STAFF.

66. *Seminars*
Enrollment limited. Written permission required.

80. (0800) *Sound and Symbols: Introduction to Linguistic Anthropology*
An introduction to the study of human communication emphasizing particularly the
relationship between language and culture. Topics include: theories of language as a
symbolic system, language differences within society, political and ideological speech,
language in the school and creative use of communication in performance, literature, advertising and mass media. M. BRINK-DANAN.

81. Race and Language in the United States† (Ethnic Studies 102)
Interested students should register for Ethnic Studies 102.

82. The Biology and Evolution of Language
(Cognitive and Linguistic Sciences 32)
Interested students should register for Cognitive and Linguistic Sciences 32.

87. Israeli Society (Judaic Studies 87, Sociology 87)
Interested students should register for Judaic Studies 87.

97. The Burden of Disease in Developing Countries (BioMed-Community Health 107, Environmental Studies 107)
Interested students should register for BioMed-Community Health 107.

For Undergraduates and Graduates

101. (1670) Global Origins of Plant and Animal Domestication
Plants and animals were originally domesticated in several different parts of the world. Using archaeological evidence from Eurasia, Africa, North and South America, this course examines when, why and how domestication occurred. Written permission required. D. D. ANDERSON.

102. (1020) AIDS in International Perspective (BioMed-Community Health 168)
Communities around the world have been affected in different ways by the HIV-AIDS pandemic. This course is concerned with cross-cultural variation in knowledge, perception, and treatment of sexually transmitted diseases and AIDS in the world. Enrollment limited. Written permission required. P. V. SYMONDS.

103. (1310) International Health: Anthropological Perspectives
This upper-level medical anthropology course focuses on the social and cultural complexity of health problems in developing nations, employing anthropological approaches to public health. International health issues such as HIV/AIDS, malaria, tuberculosis, leprosy, reproductive health, violence, and mental illness will be examined. The historical, political and socio-cultural dimensions of international health problems will be explored through reading ethnographic case studies. D. J. SMITH.

105. (1130) Peoples and Cultures of Southeast Asia
An introduction to the anthropological study of Southeast Asia. Emphasis is placed on understanding the diversity of cultures and societies through both space and time. P. V. SYMONDS.

106. (1400) Race, Culture, and Ethnic Politics† (Ethnic Studies 106)
A seminar addressing the subjects of race, culture, and ethnicity, focusing on minority groups in the U.S. Seeks to clarify the philosophical and theoretical issues in contemporary America using a cross-disciplinary approach. Enrollment limited. Written permission required. L. M. FRUZZETTI.

109. (1610) Nautical and Underwater Archaeology
Reviews the current state of underwater archaeology and will evaluate its findings in relation to anthropological concepts and social history of human maritime adaptation. Prerequisite: AN50 or equivalent. R. A. GOULD.
110. (1100) Circumpolar Ethnography
An examination of the traditional and modern lifeways of native peoples across the Arctic and subarctic from European Lapland through Siberia, Alaska, Canada, and Greenland. Topics covered are society; ethnic relations; religion (Shamanism); art; and politics, including issues of land claims and home rule. D. D. ANDERSON.

111. (1110) Africa in Anthropological Perspective
A comparative and historical examination of contemporary Africa. The course combines detailed study of particular cultures and societies with theoretical discussion of patterns of change. Topics include traditional and changing patterns of domestic life, religion, and gender relations, and the impact of colonialism and development. P. E. LEIS.

112. (1120) Peoples and the Cultures of the Americas† (Ethnic Studies 112, Latin American Studies 151)
Examines the diverse cultures and history of the Americas—especially Brazil, Mexico, and the U.S. Topics include urban peasants and rural proletarians, changing gender conventions, international migration, national and local identities, indigenous rights, and protest and rebellion in the region. M. C. GUTMANN.

113. (1140) European Ethnography
Familiarizes students with the societies and cultures of Europe from an anthropological perspective. Historical material provides for the understanding of current cultural, linguistic, religious, and ethnic variation. Major emphasis on the analysis of a range of contemporary communities from peasant to urban, from East to West, and from North to South. M. C. HOLLOS.

114. (1121) From Coyote to Casinos† (Ethnic Studies 114)
An anthropological journey through Indian Country in North America: Where did Indians come from? What were their traditional lives like? Were they ecologists or conservationists, peaceful or warlike, sacred or profane? What was their relationship with newcomers of European extraction, including anthropologists? What challenges do they face today? Indigenous and anthropological insights will be brought to bear on these and other questions. S. KRECH.

115. (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. THE STAFF.

116. (1124) United States Culture
The United States is often described as “multi-cultural”. This course examines dominant cultural values such as equality, choice, privacy, and responsibility. It also investigates aspects of the social structure of the United States such as inequality, power, race/ethnicity, kinship, and gender. Individual lives illustrate the ways that people living in the United States negotiate cultural values and confront social institutions. N. W. TOWNSEND.

119. (1123) Native North Americans in the Twentieth Century (Ethnic Studies 113)
An examination of the process of land alienation of Native Americans through the enactment of federal laws to settle the frontiers and protect the wilderness. Through the use of oral history, ethnographies, film, historical documents, and the public record, the course compares Native American and Euro-American perspectives on the ownership of land and rights to resources. D. D. ANDERSON.
120. (1133) *Ethnonationalism—The Asian Arena* (East Asian Studies 119)
Three Asian countries—China, Thailand, and Indonesia—are unique national arenas to examine and compare specific definitions, representations, and contentions among nationalistic discourse, ethnic legitimization, and ethnonationalism as they are played out in response to cultural politics, national ideology, European colonial expansion, religious identity, and ethnic identity. Nationalistic movements, ethnic nationalism, and transnational politics are explored. Enrollment limited. Written permission required. W. W. ANDERSON.

121. (1411) *Nations within States*
Examines the interactions between small-scale indigenous societies (often referred to as Fourth World Nations) and the modern states within which they now exist. The relationship is obviously asymmetrical, yet these ethnic or “racial” minorities have the support of world opinion and international organizations. The sociocultural, economic, and political structure of these nations within states is the focus of the course. D. D. ANDERSON.

122. (1421) *Ethnic American Folklore: Continuity and the Creative Process* (Ethnic Studies 122)
An investigation of the dynamics of cultural continuity and the creative process involved in ethnic American folklore from oral narratives, life history, to foodways, sports and songs. How do these cultural forms intersect with ethnicity, gender, group activism, and transnational contacts and exchanges? What are the new cultural forms, communication milieus, and venues negotiated or contested in contemporary America? Enrollment limited. Written permission required. W. W. ANDERSON.

123. (1420) *Ethnicity, Race, and Gender in the Americas*† (Ethnic Studies 123)
The historical and contemporary ethnography of ethnicity, race, and gender in the Americas. Topics include racism, multiculturalism, affirmative action, immigration, nationalism, acculturation, cultural autonomy, slavery, colonialism, and genocide. M. C. GUTMANN.

124. *Power, Segregation and Mobility Under Late Portuguese Colonialism and Its Aftermath* (Portuguese and Brazilian Studies 160)
Interested students should register for the appropriate section of Portuguese and Brazilian Studies 160.

125. (1422) *The American Experience-Southeast Asian Refugees/Americans* (American Civilization 190, Ethnic Studies 121)
Explores the diaspora of the Cambodian, the Hmong, the Lao, and the Vietnamese American from their initial exodus from their war-torn countries to their strategies for reconstructing new lives. Topics include socioeconomic changes, changing family life, gender roles, life choices, and the growing American generation. Materials used include films, songs, and autobiographies written by the refugees/Americans themselves. Enrollment limited. Written permission required. W. W. ANDERSON.

126. (1260) *Indigenous People and Nature: Birds* (Environmental Studies 126)
An exploration of intersections of indigenous peoples (especially North American Indians) with the natural world; this semester with the avian world. Through a sustained focus on one class of living things, the hope is to gain access to a range of issues concerning the relationship between people and the environment. Enrollment limited. Written permission required. S. KRECH.

128. (1251) *Violence and the Media* (International Relations 137)
The role of media in shaping perceptions of violent conflict. Analysis of constructions of the “violent other”, “victims”, and “suffering”, the use of culture, ethnicity, and psychopathology as tropes for articulating the motivations of violent perpetrators. Multiple
subject positions and political interests will be considered. Case studies include the Cold War, conflicts, insurgencies, urban riots, the genocide, and terrorism. K. B. Warren.

129. (1250) Film and Anthropology: Identity and Images of Arab Societies
The course examines representation of Arab 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 reflect and make comprehensible anthropological concepts of Arab culture, and creates different images of the society. L. M. Fruzzetti.

131. (1240) Religion and Culture (Religious Studies 131)
This course will provide an intellectual history of anthropological theory about religion and demonstrate its usefulness in understanding the cultural varieties of religious experience and religious change in an increasingly globalizing world. W. S. Simmons.

132. (1241) Science and Culture (Science and Society 132)
The course is conceived as a wide-ranging exploration of issues in the anthropology of science and technology, rather than as a sustained and comprehensive exploration of any one topic or approach. Consider it an invitation to learn, and to join lively debates among scholars engaged in developing anthropological perspectives on these subjects. S. Hamdy.

133. (1230) Political Anthropology (International Relations 133)
Anthropological perspectives on politics, ranging from political processes in small-scale nonliterate societies to those in industrialized states. Special attention is given to the uses of symbolism and ritual in politics. Topics include: how is political legitimacy established and maintained? how are certain political views of the world created? what is the relationship between political change and the reinterpretation of history? K. Brown.

134. (1220) Comparative Sex Roles
Covers specific cross-cultural issues of gender, cultural roles, the status of women, and their structural position in society. Themes of gender representations in the field of economics, ritual, and politics underline the concerns of the course. Though African and Asian communities are the primary focus, aspects of American society are drawn into consideration when relevant. L. M. Fruzzetti.

135. (1231) Kings, Courts, and Aristocracy (Ancient Studies 112)
Explores the nature and variety of kingship, royal courts, and aristocracy through comparative evidence, with strong emphasis on historical data, architecture, and archaeology. Test cases will be examined in Mesoamerica, Europe, Africa, and Asia. S. D. Houston.

136. (1211) Cross Cultural Perspectives on Child Development (Education 158)
This course will focus on the cultural transmission of human knowledge in formal and informal contexts. It is an exploration of the interface between the disciplines of anthropology and education. In this course, socialization, enculturation, education and schooling will be viewed as different forms of cultural transmission, effected by both formal and informal instruction. Enrollment limited. Written permission required. M. C. Hollos.

137. (1321) Impact on Colonialism: Gender and Nationalism in India
(Ethnic Studies 137)
This course is designed to look into colonial and post-colonial identities within the disciplines of history of literary studies. We will adopt an anthropological approach to those subjects, taking the cultural anthropology and construction of gender as the guideline for
the analysis. Topics will include: orientalism, and gender; nationalism and religion. Enrollment limited. Written permission required. L. M. Fruzzetti.

138. (1330) Women in Socialist and Developing Countries† (Ethnic Studies 138)
A seminar, jointly taught by a sociologist and an anthropologist, exploring the changing role of women in the former socialist countries of Eastern Europe and developing countries in Africa and Asia. Includes women’s position, ideologies, and choices within these societies, and the transitions that are taking place. Contributes to a better understanding of the role of women in our own society. L. M. Fruzzetti.

139. (1210) Culture and Cognition†
Are there cultural differences in thought and perception? If so, what are these differences and to what are they attributable? Reviews the history of the controversy on “primitive thought,” the influence of culture and environment on perception and concept formation, the development of cognitive operations, and differences in logical processes and decision making in other cultural contexts. M. C. Hollos.

140. (1232) War and Society (International Relations 136)
Cross-cultural and historical perspectives on war and its larger social context. Course readings and lectures use political economic, cultural, and feminist approaches to understanding war and its effects on social life. Case studies will be drawn from several eras and areas of the globe, including the Rwandan genocide, Central American counterinsurgency wars of the 1980s, and the war in Iraq. C. A. Lutz.

142. (1221) Anthropology of Masculinity (Ethnic Studies 189)
Contemporary anthropological and historical study of masculine identities and practices throughout the world, focusing on topics such as the cultural economies of masculinity, cultural regions and images of manhood, male friendship, machismo, embodied masculinity, violence, power, and sexual fault lines. M. C. Gutmann.

143. (1212) The Anthropology of Play (Education 142)
Play enters all fields, from physics to human development, art to scientific experimentation. In all cultures, play figures centrally in rites of passage, child development, learning, and times of celebration. Central to this course is an understanding of the rules of play, its intentions in work, functions throughout human history, and role in formal education. S. B. Heath.

144. Drugs and Society: The Politics and Culture of Coca and Cocaine (International Relations 180)
Interested students should register for the appropriate section of International Relations 180.

145. (1450) Living with Conflict
Exploration into ways in which cultural groups perceive and approach situations of conflict and how these situations in turn shape cultural practices, beliefs, and norms within the group. Examples are taken from ethnographies of different parts of the world and include a discussion of customs that help mitigate conflict among members of the group as well as conflict between groups. D. D. Anderson.

148. (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. Prerequisites: One anthropology course. Enrollment limited. Written permission required. L. M. Fruzzetti.
151. (1600) Hunter-Gatherer Adaptations
Addresses the question: to what extent can the concept of the ecosystem, as developed in evolutionary biology, explain variability in human behavior? Examines the literature on contemporary hunting and gathering societies, both human and nonhuman, as well as relevant findings in archaeology and human biology. Background in general biology and anthropology is helpful, but not required. R. A. GOULD.

152. (1650) Ancient Maya Writing (Archaeology and the Ancient World 115)
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. Enrollment limited. Written permission required. S. D. HOUSTON.

153. (1660) The Ancient Body: Past Ideas about Human Physicality
Course addresses the burgeoning literature on the human body, especially the meanings attached to it through time and across cultures. Anthropology, history, and archaeology offer the principal sources of evidence for this introduction to past ideas about the body. Enrollment limited. Written permission required. S. D. HOUSTON.

154. (1624) Indians, Colonists, and Africans in New England
Explores the colonial and capitalist transformation of New England’s social and cultural landscapes. Using historical archaeology as critical evidence, the course examines myths about conquest, invisibility, and class/gender/race relations through the study of change and persistence in the daily lives of Native American, African and European peoples. P. E. RUBERTONE.

155. (1540) Archaeology of Asian Civilizations (East Asian Studies 156)
A course survey of the pre- and protohistoric archaeology of the eastern half of Asia. Topics include the origins and evolution of agricultural societies, the emergence of village and urban life, and the rise of states and kingdoms. The early states were often characterized and even reinforced by elaborate symbolic and religious systems expressed through ritual, art, and architecture—topics also covered by the course. D. D. ANDERSON.

156. (1530) American Indian Archaeology
Traces the development of North American Indian cultures through the comparative study of prehistoric archaeological remains. Topics include the origins of Native Americans, Native American hunting-gathering lifeways, and the rise of the Native American agricultural societies. Emphasizes analyses of subsistence modes, settlement patterns, and symbolic systems. D. D. ANDERSON.

157. (1623) Archaeology of Death
Explores the study of death and burial from archaeology’s unique comparative and long-term perspective. What insights does it provide about the human condition? How have human remains illuminated the lived experiences of people in the past? What do funerary objects reveal about beliefs and social relations? Gravestones and monuments about emotions and memory? Also examines current challenges to the excavation and study of graves. P. E. RUBERTONE.

158. (1950) Archaeological Field Work
Training in archaeological lab and field techniques for archaeologists. Topics include the nature of field archaeology, tools of the trade, interdisciplinary field techniques, ethics, excavations methodology, survey and GIS, systematic vs. ad hoc excavation, artifact analysis, site and artifact preservation. Students gain experience as practicing
archaeologists through the active investigation of local historical and archaeological sites in the College Hill area. Z. NELSON.

161. (1621) Material Culture
The course focuses on the study of material culture in historical archaeology. Provides hands-on training and experience in identifying, analyzing, and interpreting materials (i.e., ceramic, glass, metal, and shell artifacts) from historic sites. Enrollment limited. Written permission required. P. E. RUBERTONE.

162. Archaeology Collections Policies† (Archaeology and the Ancient World 116)
Examines ancient objects in collections from historical, functional, material, and aesthetic angles to understand their original cultural context. Case studies are used to demonstrate changing theory and practice, and the legal and ethical implications of museum and dealer acquisition. (Previous experience with archaeology, anthropology, classics and/or art history required.) THE STAFF.

164. (1620) Global Historical Archaeology
The course examines historical archaeology as a multidisciplinary approach to the study of the historic past. Draws in recent research from different parts of the world, including North America, South Africa, Australia, the Caribbean, and South America, to illustrate historical archaeology’s contributions to interpreting peoples’ everyday lives and the diversity of their experiences in the post-1500 era. Written permission required. P. E. RUBERTONE.

165. Arabia and the Arabs: The Making of an Ethnos
(Archaeology and the Ancient World 120)
Interested students should register for the appropriate section of Archaeology and the Ancient World 120.

166. Islamic Landscapes: Cities, Frontiers and Monuments
(Archaeology and the Ancient World 120)
Interested students should register for the appropriate section of Archaeology and the Ancient World 120.

167. Material Worlds: Art and Agency in the Near East and Africa
(Archaeology and the Ancient World 120)
Interested students should register for the appropriate section of Archaeology and the Ancient World 120.

170. (1700) Evolutionary Theory and Human Behavior
An introduction to the field of human behavioral ecology, the course provides an overview of the application of the theory of natural selection to the study of behavior in an ecological setting. Focus is on anthropological topics related to reproduction such as issues of mating and parenting, sex ratios and sex preferences, and timing of life histories events. S/NC. THE STAFF.

173. (1710) Biological Issues in Human Origins and Variability
This course examines the fossil record of human ancestors and evidence for cultural origins in relation to evolutionary theory in biology. We will review studies of living primates as well as modern genetic and DNA research for measures of contemporary human variability. Finally, we will explore forensic applications and case studies. R. A. GOULD.

180. (1800) Sociolinguistics, Discourse and Dialogue (Theatre, Speech and Dance 128)
An investigation of the study of language and language behavior. Centers on the study of variation in language as seen in the social and cultural context of language use. This course will feature practice in writing fictional and dramatic dialogue based on real-life discourse.
Presupposes some familiarity with basic linguistics (AN 80, CG 41, or equivalent). The STAFF.

183. *Language, Modernization and Ethnicity in Africa*†
(International Relations 180)
Interested students should register for the appropriate section of International Relations 180.

185. (1320) *Anthropology and International Development: Ethnographic Perspectives on Poverty and Progress* (Development Studies 185)
Examines international development from an ethnographic perspective, looking critically at issues of poverty and progress from local points of view. Course is organized around the premise that culture is central to understanding processes of development. Broad development themes such as public health, agriculture, democracy, and the environment will be explored through readings representing a wide range of regions and cultures. Enrollment limited. Written permission required. D. J. SMITH.

190. (1900) *History of Anthropology*
Focuses on the formative years of the discipline of anthropology. Who were the significant figures? What were the significant questions and assumptions in the 19th and early 20th centuries? How did they shape the institution, theories, and methods that are the basis for understanding the dominant concerns in present-day anthropology? Prerequisites: two anthropology courses, including AN 10. P. E. LEIS.


201. (2301) *Interdisciplinary Perspectives on Population* (Sociology 228)
Brown University’s 10 year of excavations has created a lens through which to examine the complexities of the Nabataeans and their culture. The main information about the Nabataeans comes primarily from their extant monuments. There are also literary and epigraphic sources. This seminar will create a constellation of readable ideas, although we will still be left with many open questions about these people. THE STAFF.

204. (2320) *Ideology of Development*
An examination of different development theories and their relationship to field application. The analysis of project preparation and implementation is used to question the goals and objectives of Western and indigenous notions of progress and change within a social and economic context. Third World countries are utilized as case studies to address related issues, such as the meaning of development. S/NC. L. M. FRUZZETTI.

206. (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. S/NC. N. W. TOWNSEND.
208. (2303) *Anthropology of Fertility and Reproduction*
A seminar examining the social significance and cultural meanings of human fertility and reproduction, including the social and cultural consequences of different fertility levels, the variety of people involved in decisions about reproduction, the allocation of responsibility for parenthood, and the political implications of contemporary debates about the meanings of biological and social reproduction. S/NC. M. C. HOLLOS.

209. (2304) *Anthropological Demography: Issues in Anthropology and Population*
This seminar is intended for graduate students and postdoctoral fellows interested in anthropological approaches to population issues and is normally taken as the second course in a two-course sequence that begins with Anthropology 206. The overarching theme of the seminar is the contributions that sociocultural anthropology can make to the understanding of population processes. S/NC. D. SMITH.

210. (2100) *Seminar on the Americas*
This seminar focuses on long-standing concerns in Latin American studies and political anthropology relating to contemporary issues in the anthropology of Brazil and Mexico including social movements, race/ethnicity/nation, class, sexualities, violence, and militarism. S/NC. M. C. GUTMANN.

211. (2110) *Anthropological Theories in Africa*
Fieldwork experience in Africa has had a profound influence on the development of theory in anthropology, while theoretical considerations in turn, have guided fieldwork. This seminar examines this dialogic relationships in selected problems. Open to seniors with previous course work in anthropology and African topics. S/NC. P. E. LEIS.

214. *Research Seminar in Medieval Art: Representing the Past: Archaeology through Image and Text*  
(History of Art and Architecture 214)  
Interested students should register for the appropriate section of History of Art and Architecture 214.

A seminar exploring fundamental theoretical and ethnographic currents in 20th-century cultural anthropology. S/NC. M. C. GUTMANN.

221. (2000) *History of Ethnological Theory*
A seminar investigating some themes in the history of anthropological theory. Starting with the delineations of the scope and nature of social science by Marx, Durkheim, and Weber, the seminar then considers various explorations of the concepts of structure, function, and agency, concluding with Bourdieu’s reformulation of social anthropology for a new generation in the form of practice theory. S/NC. N. W. TOWNSEND.

222. (2020) *Methods of Anthropological Research*
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. S/NC. M. C. HOLLOS.

223. (2210) *Analysis of Social Structure*
The seminar will be on systems of exchange and the construction and meaning of gender through the study of ritual, kinship, and economics. Cultural and social constructs of exchange, notions of gift giving, indigenous meanings of “giving” and “receiving” will serve as the running theme for the seminar. S/NC. L. M. FRUZZETTI.
225. (2250) Problems of Psychological Anthropology
This course critically examines the role of gender in development and maturation, or the psychological differentiation of males and females, in the context of their socio-cultural environment. It will view development as a continuous process that begins with early experiences in childhood and continues to unfold throughout maturity. S/NC. M. C. HOLLOS.

226. (2264) Ethnicity, Race, and Nationalism† (Ethnic Studies 226)
Study of key issues debated by anthropologists regarding ethnicity, race, and nationalism, with examination of concepts such as identity, cultural citizenship, transnationalism-globalization, gender, home, and acculturation-hybridity. S/NC. M. C. GUTMANN.

230. (2040) Advanced Social Theory
This seminar is for graduate students who have taken AN220 and AN221 or equivalent graduate introductory courses in anthropological theory. Topics to be explored in this seminar include contemporary theories of globalization, hybridity, the politics of identity, class, cultural citizenship, democracy, social suffering, structural violence, agency, human rights, militarization, the body, multisited ethnography, and writing culture. Enrollment limited. Written permission required. S/NC. M. C. GUTMANN.

233. (2261) Globalisms: Empires and Social Movements
This seminar explores globalism in two of its contemporary forms, including empires and global networks of social movements. Focuses on theories of empire and on their implications for anti-war and anti-corporate movements in particular. S/NC. C. A. LUTZ.

234. (2262) Social Analysis, Public Goods and Social Movements
This seminar explores some of the political, ethical, and social issues and dilemmas involved in using social analysis to advance public interests. S/NC. C. A. LUTZ.

240. (2400) Museums and Material Culture
This seminar discusses anthropological approaches to material culture in museum contexts, by developing themes, selecting objects, and preparing a preliminary script for an exhibition in Manning Hall. (AN 240 is followed by AN 241. Students can enroll in each course independently). Enrollment limited. Written permission required. S. KRECH.

241. (2410) Exhibitions in Museums
The goal of this seminar is to implement in Manning Hall an exhibition script developed in AN 240 (see that course). Topics discussed and put into practice include: representation of cultures modern museum displays; thematic development; interpretation, handling, and mounting of objects in contextually rich and engaging museum environments; conservation; audience assessment. Enrollment limited. Written permission required. S. KRECH.

242. (2420) Museums in Their Communities
This seminar examines in detail the internal workings of museums (of anthropology, art, history, science, etc.) and their place in their communities. Accessions, collections management, conservations, education, exhibition, marketing, research, and museum management are among the topics discussed. S. KRECH.

250. (2500) Problems in Archaeology
This seminar examines the relationship of various lines of archaeological inquiry to general theories of economic behavior. The goal of the seminar will be to determine which archaeological approaches “connect up” best with the grand, social scientific theories of human economies. S/NC. THE STAFF.
260. (2520) Mesoamerican Archaeology and Ethnohistory
Seminar focusing on current issues in the archaeology and history of Mesoamerica, including Mexico and Northern Central America. Draws on rich resources at Brown, including the John Carter Brown Library. S/NC. S. D. HOUSTON.

263. Approaches to Archaeological Survey in the Old World
(Archaeology and the Ancient World 201)
Interested students should register for the appropriate section of Archaeology and the Ancient World 201.

270. (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. S/NC. S. D. HOUSTON.

271. (2540) Historical Archaeology†
Examines historical archaeology as a complex field of inquiry that draws on multiple sources of evidence and incorporates a wide range of theoretical and methodological approaches. Asks how historical archaeology can take best advantage of this richness and diversity to address questions of interest in anthropology and history. S/NC. P. E. RUBERTONE.

272. (2550) Archaeological Research Methods, Theory and Practicum
A seminar examining the role of archaeological theory and methodology in the development of research designs. Issues of scientific and humanistic approaches to the study of archaeology are also discussed. S/NC. D. D. ANDERSON.

280. (2800) Linguistic Theory and Practice
Designed to provide graduate students in the social sciences and humanities who have limited previous experience in technical or theoretical linguistics with an introduction to theory and practice in the field. Topics include language acquisition evolution, basic field linguistics, linguistic theory, sociolinguistics, language and gender, language and ethnicity, and discourse analysis. S/NC. THE STAFF.

281. (2810) Performance Theory (Theatre, Speech and Dance 200)
Explores the concept of performance as used in several social science and humanities disciplines: linguistics, anthropology, folklore, ethnomusicology, and theater. Also addresses practical problems of conducting research on performance forms. Seminar. S/NC. THE STAFF.

289. (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. No course credit. THE STAFF.

293, 294. (2980) Reading and Research

295, 296. (2900) Teaching Practicum
S/NC. THE STAFF.

297. (2030) Advanced Field Methods
A seminar for advanced graduate students returning from field research or preparing for dissertation field work. Case studies are used for a critical examination of research design and date analysis. S/NC. P. E. LEIS.
298. (2200A) **International Health**
This graduate seminar (upper-class undergraduates may seek permission from the instructor) focuses on the social and cultural complexity of health problems in developing nations, exploring anthropological approaches to public health. International health issues will be investigated using historical, ecological, epidemiological, political-economic, and ethnomedical perspectives, and the role of “applied” anthropology will be explored. D. J. SMITH.

299. (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. No course credit. THE STAFF.

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**Applied Mathematics**

Professors Dafermos, Dupuis, Falb, Gatsonis, Geman, Gidas, Gottlieb, Guo, Hesthaven, Karniadakis, Lawrence, Mallet-Paret, Maxey, McClure, Mumford, Rozovsky, Shu, Strauss, and Su; Associate Professors Bienenstock, Wang; Assistant Professors Hult, Menon; Professors Emeriti: Bishopp, Davis, Fleming, Freiberger, Grenander, Hsieh, Kushner, Sirovich.

The Division of Applied Mathematics offers standard concentration programs leading to the Sc.B. degree, the A.B. degree, the Sc.M. degree, and the Ph.D. in applied mathematics. The concentrations have considerable flexibility and allow students to pursue courses of study to suit individual needs and interests. Programs are designed by the student and a faculty advisor to provide both strong terminal degrees and preparation for more advanced study in applied mathematics, mathematics, engineering, or any of the sciences. The broad interdisciplinary character of the division and the strong science departments in the University make possible a diversity of programs which may emphasize applications to the physical sciences, computer sciences, engineering, economics, biomedical sciences, etc. The current standard programs of this nature are applied math–biology, applied math–economics, and applied math–computer science.

Since the summer of 1941, Brown University has continuously supported instruction and research in applied mathematics to meet the needs of universities, industry, and government for engineers, physicists, and mathematicians whose training extends beyond the accepted boundaries of their respective fields. The instructional program includes courses in mathematical fundamentals, as well as introductory and advanced courses in particular fields of applied mathematics. Emphasis in the program is placed on the development of the ability to formulate and analyze mathematical problems which arise in science and technology. Training in research is stressed, and instruction is integrated with a research program covering both theoretical and some experimental aspects of various fields.

The division emphasizes the importance of modern computing methods in the study of applied mathematics. Within the division there is a fully supported network of desktop computers and workstations with resources for image processing and video production. The Technical Center for Advanced Scientific Computing and Visualization (see page 291), with which the division is affiliated, maintains advanced parallel computing systems and a CAVE for interactive 3-D visualization. Scientific computing as a method of research is inherently multidisciplinary. It has experienced a period of phenomenal growth in response to the demonstrated successes of
computational methods in advancing the understanding of fundamental scientific problems, the existence and increased availability of supercomputers to university researchers, and the current initiatives of federal agencies to stimulate research and education in large-scale scientific computing. In response to this growth, the division has participated in establishing several centers for the coordination of a variety of instructional and research activities spread across the Divisions of Engineering and Applied Mathematics, and the Departments of Physics, Geological Sciences, Chemistry, Psychology, and Computer Science.

In September, 1964, the Center for Dynamical Systems was formed within the Division, and in 1974 it was renamed the Lefschetz Center for Dynamical Systems in honor of one of its founders. It is a center for research on differential equations and on the theory and applications of dynamical systems. In addition to its members in the Division, there are several members in the Department of Mathematics and in the Division of Engineering. This center has a worldwide reputation and is one of the largest of its kind.

The Center for Fluid Mechanics, Turbulence, and Computation involves faculty and students from several departments on campus and provides resources for research in fluid mechanics. There is a growing interest within the division in the application of mathematics to the nonphysical sciences, particularly to problems arising in biology, medicine, linguistics, psychology, and economics. The division is represented in the Center for Biophysical and Biomedical Engineering, the Center for Gerontology and Health Care Research, the Center for Neural Sciences, and the Committee on Statistical Science (see catalogue entry under Statistical Science), which promote cooperation among faculty from several departments.

The Brain Sciences Program, which includes more than seventy-five faculty from ten departments, is an innovative program designed to promote collaborative theoretical and experimental studies in various aspects of brain development and function. Some of the topics studied are: How do neurons communicate with each other? How does the brain wire itself? How do perception and cognition emerge from the activity of networks of neurons? How could we build machines that emulate brain functions?

Since applied mathematics involves many disciplines, students of varied backgrounds find their way into the graduate program. A strong background in and predilection for mathematics is essential, but an undergraduate may have majored in engineering, physics, biology, economics, psychology or other sciences.

The division is not formally structured into isolated research groups and in fact stresses applied mathematics as a discipline in its own right. One can, however, distinguish the following research interests and activities of present staff members: (1) applied probability and mathematical statistics, (2) computing science and numerical analysis, (3) stochastic control theory and optimization, (4) ordinary, functional, and partial differential equations, (5) fluid mechanics, and (6) solid mechanics.

Undergraduate Programs

The department offers the following concentrations:
- Applied Math
- Applied Math-Biology
- Applied Math-Computer Science
- Applied Math-Economics

For a complete description of these concentration programs leading to the bachelor’s degree, please visit: [http://www.brown.edu/Administration/Registrar/concentration.html](http://www.brown.edu/Administration/Registrar/concentration.html).
Graduate Programs

Master of Science. The general requirements for this degree are the satisfactory completion of the equivalent of one year of study at a graduate level with the program of courses subject to the approval of the division. The student may also be required to complete satisfactorily a project or thesis.

Doctor of Philosophy. The general requirements for the degree of Ph.D. in applied mathematics include the satisfactory completion of the basic courses at a graduate level approved by the division, the passing of a preliminary examination, the teaching assistant obligation, the ability to read in mathematics and science an approved foreign language, the completion of a project of research and the writing of a dissertation, a final examination on the dissertation, and a public presentation of the dissertation.

For additional information on the department’s undergraduate and graduate programs, please visit the department’s website at: http://www.dam.brown.edu/.

Courses of Instruction

Primarily for Undergraduates

9. (0090) Introduction to Mathematical Modeling
We will explore issues of mathematical modeling and analysis. Five to six self-contained topics will be discussed and developed. The course will include seminars in which modeling issues are discussed, lectures to provide mathematical background, and computational experiments. Required mathematical background is knowledge of one-variable calculus, and no prior computing experience will be assumed.

16. (0160) Introduction to Computing Sciences
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: MA 10 or its equivalent.

18. (0180) Modeling the World with Mathematics: An Introduction for Non-Mathematicians
Mathematics is the foundation of our technological society and most of its powerful ideas are quite accessible. This course will explain some of these using historical texts and Excel. Topics include the predictive power of ‘differential equations’ from the planets to epidemics, oscillations and music, chaotic systems, randomness and the atomic bomb. Prerequisite: some knowledge of calculus.

33, 34. (0330, 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: MA 10.
35, 36. (0350, 0360) Methods of Applied Mathematics I, II
Follows AM 33, 34. Intended primarily for students who desire a rigorous development of the mathematical foundations of the methods used, for those students considering one of the applied mathematics concentrations, and for all students in the sciences who will be taking advanced courses in applied mathematics, mathematics, physics, engineering, etc. Three hours lecture and one hour recitation. MA 18 is desirable as a corequisite. Prerequisite: MA 10.

41. (0410) Mathematical Methods in the Brain Sciences
Basic mathematical methods commonly used in the cognitive and neural sciences. Topics include: introduction to differential equations, emphasizing qualitative behavior; introduction to probability and statistics, emphasizing hypothesis testing and modern nonparametric methods; and some elementary information theory. Examples from biology, psychology, and linguistics. Prerequisite: MA 10 or equivalent.

65. (0650) Essential Statistics

For Undergraduates and Graduates

107. (1070) Quantitative Models of Biological Systems (Biology and Medicine 149)
An introduction to the use of quantitative modeling techniques in solving problems in biology. Each year one major biological area is explored in detail from a modeling perspective. The particular topic will vary from year to year. Mathematical techniques will be discussed as they arise in the context of biological problems. Prerequisites: introductory level biology, AM 33, 34, or 35, 36, or written permission. Offered in alternate years.

117. (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. A brief introduction to Matlab is given. Prerequisites: MA 52 is recommended, not required.

118. (1180) Introduction to Numerical Solution of Differential Equations

120. (1200) Operations Research: Probabilistic Models
Basic probabilistic problems and methods in operations research and management science. Methods 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: AM 165 or MA 161, or equivalent.
121. (1210) Operations Research: Deterministic Models (Engineering 131)
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.

125. Analytical Mechanics (Engineering 137)
Interested students should register for Engineering 137.

133, 134. (1330, 1340) Methods of Applied Mathematics III, IV

136. (1360) Topics in Chaotic Dynamics
Overview and introduction to dynamical systems. Local and global theory of maps. Attractors and limit sets. Lyapunov exponents and dimensions. Fractals: definition and examples. Lorentz attractor, Hamiltonian systems, homoclinic orbits and Smale horseshoe orbits. Chaos in finite dimensions and in PDEs. Can be used to fulfill the senior seminar requirement in applied mathematics. Prerequisites: differential equations and linear algebra.

165. (1650) Statistical Inference I
AM 165 begins an integrated first course in mathematical statistics. The first half of AM 165 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: MA 10 or its equivalent.

166. (1660) Statistical Inference II
AM 166 is designed as a sequel to AM 165 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: AM 165 or equivalent, basic linear algebra.

167. (1670) Statistical Analysis of Time Series
Time series analysis is an important branch of mathematical statistics with many applications to signal processing, econometrics, geology, etc. The course emphasizes methods for analysis in the frequency domain, in particular, estimation of the spectrum of time-series, but time domain methods are also covered. Prerequisites: elementary probability and statistics on the level of AM 165–166. Offered in alternate years.

169. (1690) Computational Probability and Statistics
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, probabilistic grammars. Offered in alternate years.

171. (1710) Information Theory (Computer Science 185, Engineering 151)
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, capacity, channel coding; source-channel separation; lossy data compression.

193. (1930) Senior Seminar
194. (1940) Senior Seminar
195. (1970) Independent Study
196. (1970) Independent Study

Primarily for Graduates

205, 206. (2050, 2060) Mathematical Methods of Applied Science
Introduces science and engineering graduate students to a variety of fundamental mathematical methods. Topics include linear algebra, complex variables, Fourier series, Fourier and Laplace transforms and their applications, ordinary differential equations, tensors, curvilinear coordinates, partial differential equations, and calculus of variations.

211. (2110) Real Analysis (Mathematics 221)
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. Y. Guo.

212. (2120) Hilbert Spaces and Their Applications (Mathematics 222)

219, 220. (2190, 2200) Nonlinear Dynamical Systems: Theory and Applications

221. Topics in Differential Equations
A sequel to AM 217 concentrating on similar material.

223, 224. (2230, 2240) Partial Differential Equations (Mathematics 237) (Mathematics 238)
The theory of the classical partial differential equations, as well as general first order theory. Basic analytic tools include the Fourier transform, distributions, Sobolev spaces, and techniques of harmonic and functional analysis. More general linear and nonlinear equations, with examples drawn from physics, differential geometry, and the applied sciences. Generally, semester II of this course concentrates on several special topics chosen by the instructor.

226. (2260) Introduction to Stochastic Control Theory
The course serves as an introduction to the theory of stochastic control and dynamic programming technique. Optimal stopping, total expected (discounted) cost problems, and long-run average cost problems will be discussed in discrete time setting. The last part of the course deals with continuous time deterministic control and game problems. The course requires some familiarity with the probability theory.

235. (2350) Advanced Elasticity (Engineering 227)
237. (2370) *Plasticity* (Engineering 229)
Theory of the inelastic behavior of materials with negligible time effects. Experimental background for metals and fundamental postulates for plastic stress-strain relations. Variational principles for incremental elastic-plastic problems, uniqueness. Upper and lower bound theorems of limit analysis and shakedown. Slip line theory. Representative problems in structural analysis, metal forming, indentation, strain and stress concentrations at notches, and ductile failure.

238. *Stress Waves in Solids* (Engineering 226)
Interested students should register for Engineering 226.

241. (2410) *Fluid Dynamics I* (Engineering 281)
An introduction to fundamental concepts of the mechanics and thermodynamics of fluid flow. Major topics include compressible and incompressible flows, viscous and inviscid flows, and vorticity dynamics.

242. (2420) *Fluid Dynamics II* (Engineering 282)
A continuation of AM 241. Topics include: low Reynolds number flows, boundary layer theory, wave motion, stability and transition, acoustics, and compressible flows.

255. (2550) *Numerical Solution of Partial Differential Equations I*
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.

256. (2560) *Numerical Solution of Partial Differential Equations II*
Examines the development and analysis of spectral methods for the solution of time-dependent partial differential equations. Topics include key elements of approximation and stability theory for Fourier and polynomial spectral methods as well as attention to temporal integration and numerical aspects. Some knowledge of computer programming expected.

257. (2570) *Numerical Solution of Partial Differential Equations III*
We will cover finite difference and other methods for solving hyperbolic partial differential equations. Background material in hyperbolic partial differential equations will also be covered. Algorithm development, analysis, implementation and application issues will be addressed. AM 255 or equivalent knowledge in numerical methods will be a prerequisite.

258. (2580) *Computational Fluid Dynamics*
An introduction to computational fluid dynamics with emphasis on incompressible flows. Reviews the basic discretization methods (finite differences and finite volumes) following a pedagogical approach from basic operators to the Navier-Stokes equations. Suitable for first-year graduate students, more advanced students, and senior undergraduates. Requirements include three to four computer projects. Material from AM 117 and 118 is appropriate as prerequisite, but no prior knowledge of fluid dynamics is necessary.

A two-semester course. Semester I includes an introduction to probability spaces and random variables, the theory of countable state Markov chains and renewal processes, laws of large numbers and the central limit theorems. (AM 211 may be taken concurrently.) Semester II provides a mathematical foundation to probability theory and covers conditional probabilities and expectations, and limit theorems for sums of random variables.
266. (2660) **Stochastic Processes**
Review of the theory of stochastic differential equations and reflected SDEs, and of the ergodic and stability theory of these processes. Introduction to the theory of weak convergence of probability measures and processes. Concentrates on applications to the probabilistic modeling, control, and approximation of modern communications and queuing networks; emphasizes the basic methods, which are fundamental tools throughout applications of probability.

267. (2670) **Mathematical Statistics I**
Advanced Statistical Inference. Emphasis on the theoretical aspects of the subject. Frequentist and the Bayesian approaches, and their interplay. Topics include: general theory of inference, point and set estimation, hypothesis testing, and modern computational methods (E-M Algorithm, Markov Chain Monte Carlo, Bootstrap). Students should have prior knowledge of probability theory, at the level of AM 263 or higher.

272. (2720) **Information Theory**

281. (2810) **Seminars in Applied Mathematics**
282. (2820) **Seminars in Applied Mathematics**

289. (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. No course credit.

291, 292. (2980) **Research in Applied Mathematics**
299. (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. No course credit.

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**Artemis A.W. and Martha Sharp Joukowsky Institute for Archaeology and the Ancient World**

The Artemis A.W. and Martha Sharp Joukowsky Institute for Archaeology and the Ancient World promotes the investigation, understanding, and enjoyment of the archaeology and art of the ancient Mediterranean, Egypt, and Western Asia. The Institute’s faculty and facilities provide a campus hub for research and teaching in this complex and compelling part of the world, including active fieldwork projects, diverse graduate and undergraduate curricula, and public outreach activities.

Currently in a period of rapid innovation and expansion, the newly established Institute is committed to encouraging interdisciplinary research and student training, as well as to building an archaeological community with strong links to related units at Brown and beyond.
The Joukowsky Institute offers a graduate course of study leading to the Ph.D. degree, and an undergraduate concentration. For a description of these programs, and for more about the Institute’s activities, see our website: http://www.brown.edu/Departments/Joukowsky_Institute/.

Undergraduate Program

For a complete description of the standard concentration program leading to the A.B. degree, please visit: http://www.brown.edu/Administration/Registrar/concentration.html.

Courses of Instruction

Primarily for Undergraduates

3. (0030) Foundations of Western Art in Antiquity (Classics 3, History of Art and Architecture 3) Examines the art of Greece and Rome for its significance to the modern world and in the context of the diversity of the parent cultures. Includes monuments of antiquity from the pyramids of Egypt to the Athenian Parthenon, the Pantheon in Rome to the Hagia Sophia in Constantinople. Explores Pompeian frescoes and recent archaeological discoveries. A foundation for study of almost any branch of Western humanism.

5. (0050) Archaeological Field Work (Anthropology 52, Classics 5) Focuses on the aims, scope, and tools of field archaeology, and the nature of archaeological evidence. Emphasizes interdisciplinary field work techniques and the composition, function, and responsibilities of an excavation staff. Examines systematic versus ad hoc excavations and their respective problems of preservation. Students excavate model sites in a laboratory and present a team report upon completion. Enrollment limited. Written permission required.

10. (0100) Field Archaeology in the Ancient World Always wanted to be Indiana Jones? This course, focusing on the Mediterranean world and its neighbors in antiquity, interprets field archaeology in its broadest sense. In addition to exploring “how to do” archaeology – the techniques of locating, retrieving and analyzing ancient remains – we will consider how the nature of these methodologies affects our understanding of the past. S. E. ALCOCK.

36. (0360) Archaeology of Anatolia† (Anthropology 56) Offers an archaeological survey of Anatolian civilization including an analysis of the settlements, history, art, architecture, and characteristics of specific sites and their artifacts, from prehistoric to Hellenistic periods.

37. (0370) Archaeology of Mesopotamia (Classics 117) A cultural and historical survey of Mesopotamia, tracing its origins and developments from prehistory to 6th-century Babylon. Both archaeological sites and literature are examined, as are works of art and sources for social and political history. Prerequisite: AE 3 or equivalent background in archaeology.

38. (0380) Archaeology of Iran (Anthropology 38) An archaeological survey of the origins and development of the Iranian civilizations. Analysis of settlements, history, art, architecture, and characteristics of specific archaeological sites and their artifacts ranging from prehistoric to the Hellenistic period.
39. (0390) *Archaeology of Palestine* (Anthropology 49)
Traces the prehistory of Palestine (modern Israel, Syria, Lebanon, Jordan) from its beginnings in the Paleolithic to end of the Byzantine period. Surveys history of archaeological research in this area, emphasizing significant excavations and their artifacts. Develops an understanding of the art, architecture, and modes of life of humankind from age to age, the changes introduced from one period to another, and causes and effects of those changes. K. M. GALOR.

41. (0410) *Mediterranean Bronze Age*† (Classics 55)
The Bronze Age of Crete and Greece studied in relation to foreign influence and internal development. The following topics receive particular attention: the coming of the Greeks, the decipherment of the Linear B script, the stratigraphy of the Palace of Knossos, and the dissolution of the Mycenaean kingdoms.

42. (00420) *Greek Art and Architecture*† (Classics 34, Classics 58, History of Art and Architecture 23)
All media are discussed and, while the emphasis of the course is on a different period each year, a comprehensive introduction to the entire history of Greek art, architecture, and archaeology is always provided. No prior background is required.

45. (0450) *Archaeology of Jerusalem* (Judaic Studies 45)
Examines the archaeology of the city of Jerusalem from David’s conquest in ca. 1000 B.C.E. through the Crusaders’ defeat in 1187 A.D. The contemporary literary sources as well as the more recent scholarly debates and discoveries help us understand the material remains of the relevant periods. K. M. GALOR.

52. (0520) *Roman Art and Architecture* (History of Art and Architecture 52)
An introduction to the Roman major monuments in Roman art at the point when the Empire emerged up to the time of the creation of the Pantheon. No prior background required.

60. (0600) *Introduction to Islamic Archaeology* (Anthropology 55, History of Art and Architecture 48, Religious Studies 60)
This course will survey the archaeology of the regions under the political authority of Muslim states from the seventh century A.D. until the rise of the Ottoman Empire. We will examine Muslim societies through the archaeological record of their cities, monuments, and artifacts. We will consider both the “core” Islamic lands of the Middle East and its “periphery” such as Muslim Spain, sub-Saharan Africa, Central Asia, and the Indian subcontinent.

77. (0770) *Food and Drink in Classical Antiquity* (Ancient Studies 112, Classics 77)
Everybody eats - but patterns of eating (and drinking) vary dramatically from culture to culture. This course traces the mechanics of food production and consumption in the ancient Mediterranean world, considers how diet marked symbolic boundaries, gender differences, and in general explores the extent to which the ancient Greeks and Romans “were what they ate.” S. E. ALCOCK.

80. (0800) *Alexander the Great and the Alexander Tradition*
This course focuses on a single historical figure, Alexander the Great, using him as a point of departure for exploring a wide range of problems and approaches that typify the field of Classical Studies. How knowledge of Alexander has been used and abused provides a fascinating case study in the formation and continuous reinterpretation of the western Classical tradition. J. F. CHERRY.
For Undergraduates and Graduates

115. (1150) Urbanism in the Archaeological Record† (Anthropology 152, Urban Studies 115)
Investigates urbanism in pre-industrial societies, contrasting several archaeological regions during different time periods. Discusses factors influencing evolution of and approaches to urbanism. Focuses on regions/ancient sites in Mesopotamia, Egypt, Anatolia, the Aegean, Syria, Europe, China, and pre-Hispanic Mexico. Discusses their spatial organization, physical planning, and socio-economic complexities. Prerequisite: One from among AE 36, 37, 38, 39, EG 143, 144. Enrollment limited. Written permission required.

116. (1160) Archaeology Collections Policies† (Anthropology 162)
Studies ancient objects in collections from historical, functional, material, and aesthetic angles to understand their original cultural context. Uses case studies to demonstrate changing theory, practice, and legal and ethical implications of museum and dealer acquisition. (Previous experience with Archaeology, Anthropology, Classics, and/or Art History required).

120. (1200) Topics in Old World Archaeology and Art

(1200G) Arabia and the Arabs: The Making of an Ethnos (Anthropology 165)
This course will survey the archaeology and history of the Arabs and Arabia from before their emergence in the historical record to the modern period. Our particular focus concerns their relationship with the rise of Islam as well as the imperial politics of the pre-Islamic Near East. A major issue that frames these inquiries is the concept of ethnicity and its projection into the past. Enrollment limited. Written permission required.

(1200F) City and the Festival: Cult Practices and Architectural Production in the Ancient Near East (History of Art and Architecture 120)
This course will explore urbanization, formation of urban space, and architectural projects in relation to cult practices and commemorative ceremonies in the Ancient Near East. Investigating case studies from early cities of fourth millennium BC Mesopotamia to Iron Age Syria and Anatolia, we will study processes of the making of urban and extra-urban landscapes in the socio-religious context of festivals. Enrollment limited. Written permission required.

(1200H) Islamic Landscapes: Cities, Frontiers, and Monuments (Anthropology 166, History of Art and Architecture 120, Religious Studies 188)
This course will examine the built environments of the Islamic Period Middle East through the growing archaeological and historical record of its cities, frontiers, and monuments. How has the landscape of this region become transformed by its relationship with a dynamic Islamic tradition? Key issues examined are the notion of the “Islamic city”, sacred space, and the spatiality of Muslim/non-Muslim relations. Enrollment limited. Written permission required.

(1200I) Material Worlds: Art and Agency in the Near East and Africa
(Anthropology 167, History of Art and Architecture 120)
This course investigates technological processes of artifact production in the material culture of ancient and contemporary Near East and Africa. Archaeological and ethnographic case studies will be explored to understand the social relations behind skilled craftsmanship in architecture and “art”. Circulation of craft knowledge, cultural biography of artifacts, constitution of cultural identities, and memory through material processes will be central topics. Enrollment limited. Written permission required.
(1200B) Pompeii (History of Art and Architecture 120, Urban Studies 121)
Interested students should register for History of Art and Architecture 120.
Pompeii and its neighboring towns are the best examples for studying the life, art, and
architecture of a Roman town. This seminar covers the works of art and the life in the
town as reflected in the monuments excavated over the past 250 years. Enrollment
limited. Written permission required. R. M. Winkes.

(1200D) The Portrait (History of Art and Architecture 120, Classics 193)
Interested students should register for History of Art and Architecture 120.

Roman Crafts: The Study of Jewelry, Gems, Coins, Glass, and Silverplate
(History of Art and Architecture 120)
Interested students should register for History of Art and Architecture 120.

(1200C) Roman Iberia (Classics 193, History of Art and Architecture 120)
The archeology, art, and architecture of Iberia during the Roman presence from the
Punic Wars to the beginning of the Arab conquest. The artifacts and monuments
discussed will not only represent artistic production from Roman administrative
expressions, but also a mixture of styles between indigenous art (such as Celtic) or
expressions of syncretism or other cultural symbioses. Enrollment limited. Written
permission required. R. M. Winkes.

131. (1310) Ancient Painting†
Examines selected topics in ancient painting with emphasis on the remains of ancient fresco
decoration. Topics are Paleolithic Painting, Aegean Bronze Painting, Etruscan Painting,
Greek Painting of the Fifth and Fourth Centuries (text evidence), Roman Painting, Roman
Painting as reflected in Mosaic.

144. (1440) Synagogues, Churches, and Mosques (Judaic Studies 144,
Religious Studies 188)
Reviews the discoveries and related scholarship of ancient synagogues, churches, and
mosques in ancient Palestine. Focuses on their architectural and decorative as well as
their spiritual and religious characteristics, and examines how those institutions influenced
each other throughout their history of development. K. M. Galor.

145. (1450) Qumran and the Dead Sea Scrolls (Judaic Studies 145,
Religious Studies 188)
Examines the scholarly interpretations of the site and the scrolls. Attempts to determine the
relationship between the archaeological and textual evidence. K. M. Galor.

The purpose of this course is to offer a forum for informed discussion of a variety of
difficult questions about access to the classical past, and its modern-day ownership and
presentation, seen primarily from the perspective of material culture (archaeology, art,
museum displays, etc.). J. F. Cherry.

191. (1970) Individual Study Project in Old World Archaeology and
Art
Primarily for Graduates

(2010B) Approaches to Archaeological Survey in the Old World (Anthropology 263)
Recent decades have witnessed a marked development of interest in regional
approaches to the ancient world and its landscapes. This seminar will explore the
history of this development, as well as survey’s impact on the work of both ancient
historians and archaeologists. Topics to be covered include survey design and methodology, and the wider implications and lessons of regional analysis. J. F. CHERRY.

(2010D) *Archaeology and Religion: Excavating the Sacred from Prehistory to Islam* (Religious Studies 203)
This course explores methodological approaches and theoretical underpinnings of scholarly (and sometimes unpopular) interpretations of the archaeological record as evidence for the religious life of past societies, considering how archaeologists have treated the analytical categories of ritual, religion, ideology, and the sacred. These discussions will be examined through Mediterranean case studies as a key region in the archaeology of religion.

(2010E) *Archaeology in the Information Age*
Archaeology must circulate the material past in two dimensions. The right combination of image (maps, plans, photographs) and text has long defined professional archaeology. However, the current explosion of digital media has spurred profound shifts in all domains of archaeological practice and documentation. This course encourages reevaluation of archaeological media, which pertains to information technology across the humanities and sciences.

(2010C) *Architecture, Body and Performance in the Ancient Near Eastern World*
This seminar investigates the relationship between bodily practices, social performances, and production of space, using case studies drawn from ancient Mesopotamia, Anatolia, and Syria. Employing contemporary critical theories on the body, materiality and social practices, new theories of the making of architectural spaces and landscapes will be explored with respect to multiple geographical, historical contexts in the Ancient Near East.

*Problems in Old World Archaeology: The Archaeology of Empires*  
(Anthropology 250, Classics 207)
Interested students should register for Anthropology 250.

202. (2020) *Research Seminar in Greek Art and Architecture*
May be repeated for credit.

203. (2030) *Research Seminar in Roman Art and Architecture*
May be repeated for credit.

204. (2040) *Research Seminar in Old World Archaeology*

209. *The Nabataeans*† (Anthropology 201, Sociology 228)
Interested students should register for Anthropology 201.

214. *Research Seminar in Medieval Art: Representing the Past: Archaeology through Image and Text*  
(History of Art and Architecture 214)
Interested students should register for the appropriate section of History of Art and Architecture 214.

254. (2540) *Roman, Byzantine and Early Islamic Jerusalem* (Religious Studies 254)
Jerusalem constitutes one of the most important archaeological sites connected to the origins of Judaism, Christianity and Early Islam. Early and recent studies and discoveries, as well as old and new theories, will be examined in the seminar with special emphasis on the Roman, Byzantine, and Early Islamic periods. Prerequisite: knowledge in archaeological methodology. K. M. GALOR.
255. (2550) *Qumran and the Dead Sea Scrolls* (Religious Studies 255)
This course is structured as a seminar on the archaeology of Qumran and the Dead Sea Scrolls. The site will be examined in its larger geographical, historical and archaeological context. The goal is to become familiar with the different scholarly interpretations of the site. Prerequisites: solid background in at least one of three fields: archaeology, Judaism, and Early Christianity. K. M. GALOR.

282. (2820) *Special Topics in Old World Art and Archaeology*

290. (2980) *Individual Reading*

295. (2981) *Thesis Research*
Individual reading for the Master’s degree.

296. (2982) *Individual Reading for Dissertation*
Reading leading to selection of the dissertation subject. Single credit.

297. (2983) *Dissertation Research*

298. (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.

299. (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. No course credit.

**Art**

*Art History* is listed under *History of Art and Architecture*.

*Studio Art* is listed under *Visual Art*.

**Biochemistry**

Programs in biochemistry draw on the resources of the Division of Biology and Medicine and the Department of Chemistry. For a complete description of the standard concentration program leading to the Sc.B. degree, please visit [http://www.brown.edu/Administration/Registrar/concentration.html](http://www.brown.edu/Administration/Registrar/concentration.html).

There are two graduate programs leading to the Ph.D. in biochemistry. They are (1) Molecular, Cell Biology and Biochemistry in the Division of Biology and Medicine (see page 206), and (2) Biochemistry in the Department of Chemistry (see page 249). The formal degree requirements are those of the individual programs.

**Biology and Medicine**

**Program in Biology**

*Department of Ecology and Evolutionary Biology*: Professors M. Bertness (Chair), E. Brainerd, G. Erikson (E), G. Goslow (E), C. Janis, D. Morse (Research - E), D. Rand, O. Sala, J. Schmitt (Vice-Chair), J. Waage; Associate Professors S. Gatesy, S. Hamburg, J. Hughes, S. Swartz, M. Tatar, J. Witman; Assistant Professor T. Roberts.
Department of Molecular Biology, Cell Biology and Biochemistry: Professors W. Atwood, S. Beale, A. Dahlberg, A. Fausto-Sterling, S. Gerbi, J. Sedivy (Chair), G. Wessel; Associate Professors P. Gruppuso (Associate Dean of Medicine), E. Nillni (R), A. Rosmarin, K. Wharton; Assistant Professors A. Brodsky, R. Creton (R), A. DeLong, W. Fairbrother, R. Freiman, S. Gregory (R), J. Klysik (R), T. Lange (R), T. Serio, J. Singer, J. Thompson (R); Adjunct Professor D. Cane; Adjunct Associate Professors J. Suggs, M. Thompson.

Department of Molecular Microbiology and Immunology: Professors C. Biron (Chair), S. Hajduk, P. Knopf (E), S. Lederberg (E), P. Shank, J. Wands; Associate Professors L. Brossay, A. Campbell; Assistant Professors R. Bennett, W. Chu, T. Salazar-Mather, G. Yap; Instructor M. Gil (R).

Department of Molecular Pharmacology, Physiology and Biotechnology: Professors K. Agarwal (E), W. Bowen, S. Cha (E), S. Chu (Research - E), J. Conrad, L. Goldstein (Vice-Chair), C. Hai, E. Hawrot (Chair), D. Jackson, J. Kauer, M. Lysaght (R), D. Marsh (E), J. Marshall, E. Mathiowitz, D. Mierke, M. Povar (E), P. Richardson, H. Vandenuburgh, A. Zimmerman; Associate Professors M. Goddard, R. Miech (E), J. Morgan, T. Palm; Assistant Professor L. Blair (R), D. Ciombor (R), K. Harnett (R), D. Hoffman-Kim, W. Peti; Adjunct Professors R. Dowben, N. Holstein-Rathlou (R); Adjunct Associate Professors A. Agins, F. Gentle, D. Livingston; Adjunct Assistant Professors B. Bready, M. Kreitz, R. Li, S. McDonough, J. Niedzwiecki, K. Shefali, B. Zielinski; Investigator M. Rioult-Pedotti.

Department of Neuroscience: Professors D. Berson, E. Bienenstock, R. Burwell (J), B. Connors (Chair), L. Cooper (J), J. Donoghue, J. Fallon, J. Kauer (J), D. Lipscombe, J. Marshall (E), J. McIlwain (E), M. Paradiso, J. Sanes (J), J. Simmons; Associate Professors R. Patrick, D. Ress, D. Sheinberg; Assistant Professors C. Aizenman, A. Dunaevsky, M. Mehta; Lecturer J. Stein; Assistant Professor (Research) S. Cruikshank; Investigator L. Hochberg, M. Kositsky, W. Truccolo.

Medical School


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Salvatore (Adj) P. Vivier; Assistant Professors S. Acharyya (R), T. Apodaca(R), A. Baylin, J. Blume, B. Borsari (R), M. Bourbonniere (Adj), M-H. Chen (R), I. Gareen (R), C. Gwaltney (R), O. Intrator (R), V. Knopik (R), D. Liu (R), M. Lurie (R), R. Martin (R), R. Morell-Frosch, G. Papandonatos, D. Parker (R), D. Pearlman (R), L. Resnik (R), P. Risica (R), E. Shenassa (R), A. Trivedi, W. Verhoeck-Oftedahl (R), Z. Wu; Research Associates I. Glasser, H. Inaba, R. Schwartz, S. Storti, M. Wood; Clinical Professors F. Ferri, M. Follick, D. Giddon; Clinical Associate Professors J. Burrill, D. Egilman, J. Fulton, R. Marshall, P. Nolan, R. Shield, P. Simon; Clinical Assistant Professors D. Ames, J. Buechner, C. Caron, F. Leperau Jr. (E), S. Marable, T. Romeo (E), A. Tinajero, R. Vanderslice; Clinical Instructors R. Smith (E), D. Williams; Clinical Teaching Associates C. Koller, L. Raiola, L. Urbani; Senior Lecturer C. Dube; Investigators A. Gjelsvik, P. Gozalo, S. Kuo, C. Lee, D. Nielsen.

Department of Dermatology: Professors J. Digiovanna, C. McDonald (Chair), M. Weinstock; Associate Professors R. Dufresne, G. Telang; Assistant Professors C. Lapidus, T. Pan, L. Robinson-Bostom; Clinical Professors B. Flaxman, A. Kern (E); Clinical Associate Professors L. Bercovitch, A. Daily (E), L. Fragola, S. Glinick; Clinical Assistant Professors M. Angermeier, O. Basile, N. Bruno, K. Carney-Godley, D. Farrell, S. Feder, V. Formisano, M. Higginson, L. Iler, P. Kerr, M. Kuperman-Beade, T. Long, J. Muglia, D. Pomerantz, C. Quirk, E. Rivera, R. Schneider, P. Snyder, J. Solis, N. Toback, R. Triedman, G. Vittimberga, E. Welch, R. Welch, C. Wilkel; Clinical Instructors N. Burnside, E. Schoenfeld, P. Zaydon; Instructor M. Albert.


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Department of Obstetrics and Gynecology: Professors D. Coustan (Chair), E. Gold (E), W. Metheny, J. Peipert, P. Sweeney; Associate Professors M. Carpenter, S. Carr, S. Cu-Uvin, G. Frishman, W. Gajewski, C. Grami, D. Keele, D. Myers, J. Star; Assistant Professors L. Boardman, S. Fox, M. Gordiner, J. Kacmar, R. Legare, M. Malee, R. Moore, K. Pagidas, M. Phipps; Instructor Research Associates A. Cooper; Clinical Professor N. Jackson; Clinical Associate Professors D. Angelini, A. Blazar, J. Lathrop (E),


Department of Psychiatry and Human Behavior: Professors D. Abrams, M. Carskadon, N. Epstein (E), G. Fritz, R. Goldberg, M. Goldstein (Adj), G. Keitner, M. Keller (Chair), H. Leonard, B. Lester, L. Lipsitt (E), R. Longabaugh (R), C. Malone (E), B. Marcus, I. Miller, N. Niara, L. Price, R. Seifer, A. Spirito, R. Stout (Adj), R. Swift, R. Westlake, R. Wing; Associate Professors R. Barrett, M. Bauer, R. Boland, L. Brown, R. Brown, R. Cohen, D. Faust (Adj), G. Francis, B. Greenberg, J. Jakicic (R), G. Kaplan, R. Kohn, I. Levav (Adj), P. Malloy, J. McCartney (E), T. Nirenberg (R), K. Phillips, B. Pinto (R), S. Rasmussen, R. Rende (R), D. Robbins (Adj), T. Roessler, M. Shea, R. Stern, J. Stevenson (Adj), R. Wagner (R), M. Zimmerman, C. Zlotnick; Assistant Professors C. Acebo (R), M. Aloeia, J. Arnedt (R), N. Barnett (R), C. Battle (R), B. Bock (R), B. Borrelli (R), P. Brown (R), J. Cai, E. Cardeni (Adj), L. Carpenter, S. Colby (R), C. Czachowski, S. Dickstein, D. Donaldson (Adj), J. Eisen, K. Emmons (Adj), G. Fallone (R), J. Freeman (R), C. Giambulvo (Adj), A. Gogineni, A. Gorin (R), J. Grant, E. Jelalian, C. Kahler (R), M. Karno (R), C. Lescano, B. Lewis (R), C. Lloyd-Richardson (R), J. McAffery (R), J. McCaffrey (E), R. McQuaid (R), A. Miller (R), P. Minugh (Adj), K. Morrow, M. Napolitano (R), J. Nash, C. Neighbors (R), M. Pagano (R), R. Paul (R), T. Pearlstein, S. Phelan (R), M. Prinstein (Adj) (R), S. Ramsey (R), C. Ryan (R), H. Sachs, S. Sheinkopf (R), W. Shadel (Adj), C. Slomkowski (R), L. Stein (R), D. Strong (R), L. Stroud (R), G. Stuart, D. Tate (R), T. Tevyaw, J. Tidey (R), J. Todaro (R), J. Tranzo (Adj), A. Tyka, R. Weisberg (R) S. Yen (R); Instructors S. Bruce, A. Kazura, S. Valeri (R); Lecturer F. Jones (E); Research Associates N. Davis, C. Goelmbeske, S. Gulliver, J. Howard, J. Lambert, R. Lebeau-Craven, C. Lee, J. Lewis-Esquerre, A. Mello, M. Mello, R. Rosen, B. Van Noppen, T. White; Clinical Professors W. Brown,

Department of Radiation Medicine: Professors A. Glicksman (E), D. Wazer (Chair); Associate Professors V. Band (Adj), M. Engler (Adj), D. Shearer, J. Tsai (Adj); Assistant Professors T. Boyle (Adj), T. Dipetrillo, S. Hauser (Adj), A. Mahajan (Adj), J. McGrath (Adj), J. Morr (Adj), K. Ulin (Adj), Z. Zheng; Instructor J. Mignano (Adj); Research Associate G. Cardarelli; Clinical Associate Professors P. Chougule, P. Maddock, B. Webber (E); Clinical Assistant Professors R. Brotman, D. Joyce, G. Masko, M. Puthawala, S. Triedman.

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Graduate Programs

The Division of Biology and Medicine offers eight programs of graduate study leading to the degrees of A.M. in biology and Sc.M. in biology or medical science. These programs are (1) Molecular Biology, Cell Biology, and Biochemistry, (2) Molecular Pharmacology and Physiology, (3) Artificial Organs, Biomaterials, and Cellular Technology, (4) Ecology and Evolutionary Biology, (5) Epidemiology, Biostatistics and Health Services Research, (6) Pathobiology, (7) Neuroscience and (8) Biomedical Engineering. The division also offers a program leading to the master of public health degree and a program in the Medical School leading to the degree of doctor of medicine. Students in the Medical School may also pursue a degree of master of medical science and/or doctor of philosophy in one of the seven graduate programs.

The collections in the biological sciences are housed, along with those in the physical sciences, in the Sciences Library, located at the corner of Thayer and Waterman Streets. This library provides access to more than 5,000 current periodicals and 300,000 volumes in the fields of biology, medicine, psychology, and all the physical science disciplines. Research facilities are available for work with a wide variety of prokaryotic and eukaryotic organisms. Major divisional facilities include an animal care facility, DNA sequence facility, an electron microscope facility, and greenhouses.
Students entering graduate programs generally have, in addition to college courses in biology, a background in physics, chemistry, and mathematics (see below). Courses are chosen with the advice of program counselors, and may include, in addition to divisional offerings, courses offered by other university departments. As a part of the doctoral training each student will be required to participate in the teaching of one or more courses related to the program. Formal language requirements for the different programs are noted below.

**The Program in Molecular Biology, Cell Biology, and Biochemistry:** The graduate program in molecular biology, cell biology, and biochemistry is intended for highly qualified students who plan to pursue a career which includes research in biology or medical sciences. Admission is generally limited to candidates for the Ph.D. degree, though in some cases candidates for the M.S. degree will be admitted. The program is interdisciplinary, focusing on molecular and cellular aspects of developmental biology, genetics and gene expression, signal transduction, oncogenesis, immunology, protein biochemistry, cell surface receptors, molecular modeling, DNA/RNA protein interactions, and virology.

**The Program in Molecular Pharmacology and Physiology:** The graduate program in molecular pharmacology and physiology offers advanced training appropriate for academic and research careers in the fields of biology and medical sciences that include molecular and structural pharmacology; neuropharmacology; cellular, comparative, and organ systems physiology; and neurophysiology and neuroanatomy. Programs of study and research are developed individually in consultation with the student’s adviser and advisory committee and are designed to ensure expertise in the student’s principal field. Admission is ordinarily limited to applicants for the Ph.D., but admission for the M.S. only may also be permitted. Entering students are expected to have strong undergraduate qualifications in chemistry, mathematics, and physics as well as the biological sciences.

To fulfill Ph.D. requirements, students must pass a comprehensive examination and a preliminary research examination, complete and publicly defend a doctoral dissertation, and participate in the undergraduate teaching programs of the Division of Biology and Medicine. Students must demonstrate mastery of advanced biochemistry, molecular genetics, and cell biology. Students in the pharmacology track are also required to take a basic and advanced pharmacology course.

**The Program in Artificial Organs, Biomaterials, and Cellular Technology (ABC):** The ABC program is part of a larger Department of Molecular Pharmacology and Biotechnology, which focuses on the fundamental aspects of modern therapeutics. It prepares graduates for academic and industrial careers in tissue engineering, drug and gene delivery and medical biotechnology. Through exposure to polymer science, device fabrication, tissue culture techniques and experimental surgery, students participate in the creative and productive aspects of advanced drug delivery systems, extracorporeal processing of cells and tissues, implantable devices, minimally invasive procedures, cellular transplantation and gene therapy.

**The Program in Pathobiology:** The graduate program in pathobiology is an interdisciplinary program devoted to basic research into mechanisms of disease. The three major research themes are toxicology and environmental pathology, immunology and infection, and cancer biology. Training may be obtained in the areas of immunopathology, renal pathology, pulmonary pathology, chemical pathology, environmental and viral carcinogenesis, cancer biology, toxicologic pathology, extracellular matrix biology, hepatology and infectious diseases. The techniques of molecular biology, cell biology and
biochemistry are used to characterize structural, functional and chemical abnormalities occurring at the subcellular level. Students are required to complete courses in pathology, cell biology, biochemistry and statistics, and may take courses in immunology, molecular biology, cancer biology, electron microscopy, radiobiology, experimental surgery and related sciences.

The Program in Ecology and Evolutionary Biology: The graduate program in ecology and evolutionary biology is intended for highly qualified students who plan to pursue a career that includes research in ecology and/or evolutionary biology. Admission to graduate study is open to candidates for both the Ph.D. and M.S. degree. Individual programs are designed to meet each student’s needs and interests while providing a strong background in ecology, evolutionary biology and relevant related areas. All students are expected to attain proficiency in ecology theory, field research methods, evolutionary theory, and statistics. Depending on the student’s interests, he/she may be expected to demonstrate proficiency in other areas as well, such as ethology or genetics. This proficiency may be attained through course work, seminars, independent reading, and laboratory and field programs. The faculty of this program includes ecologists, evolutionary biologists, and geneticists, and provides opportunities for interactions with other programs in the division as well as those without (e.g., Applied Mathematics, Geological Sciences).

Students will demonstrate proficiency in the language most appropriate to their area of thesis research. A preliminary examination and a thesis defense are required, and every candidate must write a dissertation and present it in proper form to the Graduate School.

The Program in Epidemiology, Biostatistics, and Health Services Research: The Graduate Program in Epidemiology, Biostatistics and Health Services Research, based in the Department of Community Health, is structured along two broadly defined tracks focusing on epidemiology and biostatistics respectively. The department offers comprehensive course work leading to an Sc.M. in epidemiology and Sc.M. in biostatistics, as well as to a Ph.D. in epidemiology and a Ph.D. in biostatistics. Students can also follow a minor concentration in health services research within epidemiology. The graduate program in epidemiology is designed to provide methodologic and subject matter training in the study of the multiplicity of biological, behavioral, and social factors that influence the determinants of disease, its treatment, and its consequences and outcomes.

The graduate programs in Biostatistics are designed to provide training in theory, methodology, and practice of statistics in biology, public health, and medical science. The program provides comprehensive training in theory and methods of biostatistics, but is highly interdisciplinary and requires students to acquire expertise in a filed of application. The PhD program is intended to enable graduates to pursue independent programs of research; the MS program provides training for application of advanced methodology in professional and academic settings.

For further information on all programs, please visit http://bms.brown.edu/Commhealth/dept.

The Program in Neuroscience: The graduate program in neuroscience is designed to educate and train scientists who will become leaders in the field and contribute to society through research and teaching. Each student takes a series of courses tailored to his or her background and goals, chosen in consultation with faculty advisors. Each student must also pass a comprehensive examination, propose and defend a thesis topic, complete a substantial body of original research, and write and defend a doctoral dissertation. The core of the training involves close interaction with faculty to develop expertise in biological, behavioral, and theoretical aspects of neuroscience. Interdisciplinary work is encouraged
and may be undertaken in the Departments of Neuroscience, Cell and Molecular Biology, Pharmacology, Ecology and Evolutionary Biology, Physiology, Psychology, Cognitive and Linguistic Sciences, Physics, Computer Science, and Applied Mathematics.

In addition to formal course work and research, a number of activities and events enhance graduate training. There are numerous seminar series, including the Neuroscience Colloquium Series, in which speakers from U.S. and international universities and research institutes present their latest research findings. Throughout the academic year, journal clubs meet weekly to discuss the most recent research literature. Recent journal clubs have focused on molecular neurobiology, cellular neurophysiology, computational neuroscience, synaptic plasticity and development, learning and memory, motor control, and visual physiology and perception, and skills. There is an annual workshop on scientific ethics and skills that is specifically designed for graduate students. Near the beginning of each academic year there is a neuroscience graduate program retreat that is an occasion for social interaction and, through talks by program faculty, an update of ongoing research within the program.

Graduate research and training are carried out in the laboratories of the program’s faculty, which are well equipped for state-of-the-art studies of the nervous system. Methods currently in use include patch clamping and single ion channel analysis, molecular biological techniques, in situ and in vitro electrophysiological analyses of sensory and motor systems, light and electron microscopy, two-photon microscopy, high-dimensional simultaneous microelectrode recording, high performance liquid chromatography, microdialysis, behavioral neurophysiology, psychophysical and behavioral analyses, functional MRI, and mathematical modeling and computer simulation of neural systems. Large-scale shared facilities exist for microscopy, computers, mouse transgenics, functional MRI, animal care, electronics and machine shops.

The Program in Biomedical Engineering: Brown University provides interdisciplinary graduate-level training in engineering, biology, and medicine by supporting graduate students and innovative curricular development in our new biomedical engineering program. Our program is unique in that it supports two complementary research initiatives emblematic of the new interdisciplinary approach: regenerative medicine, in which living cells are manipulated to produce replacement organs and novel therapies, and living systems/machine interfaces, in which the properties of biological molecules and organisms are exploited to develop new technologies. This approach to biomedical engineering promises to advance understanding of fundamental systems and to improve the quality of life for people with medical problems.

A further distinctive feature of our program is the strong connection between academic science, clinical medicine, and industry. Graduate students gain clinical experience at teaching hospitals associated with Brown’s Medical School and engage in Internships at companies commercializing biomedical technologies. These opportunities, coupled with dissertation research, gives graduate students in our biomedical engineering program both intellectual and practical skills required for developing today’s emerging science into useful biomedical technology.

Admission: Entering students are expected to have a Bachelor of Science degree in engineering, life sciences, or biomedical engineering. The Graduate Program will make recommendations to the full faculty for interviews and acceptance after the applications have been made available for review by the faculty. Students participating in the Ph.D.-level Program in Biomedical Engineering are admitted by the graduate school and must primarily affiliate with the MPPB or Neuroscience departments in the Division of Biology and Medicine or the Division of Engineering.
Ph.D. Degree: The University requires three years of full-time study (i.e., 24 tuition units of which a maximum of 8 can be transferred from post-baccalaureate work) for graduation at the Ph.D. level. Students must receive a grade of B or better on courses used in fulfillment of the Ph.D. requirement and these courses must be taken for a grade rather than no credit/no credit basis. Additionally, students in the M.D./Ph.D. program can receive 8 credits for satisfactory completion of the first two years of the program in medicine. All students who have not done so at the time of admission will need to satisfy the core requirements in the basic science, mathematics, engineering, and biology established for an undergraduate degree in biomedical engineering at Brown. In addition, students will need to complete six structured upper-level courses, at least two of which must be in engineering, two of which must be in biology, and two of which must be 200-level courses.

M.S. Degree: In some cases, students will be admitted to the program as candidates for the M.S. degree only; such students normally are not eligible for financial aid. A minimum of eight semester-courses (eight tuition units are required) is required. Students must complete core requirements in basic science, engineering, and biology for an undergraduate degree in biomedical engineering at Brown, and also complete at least five structured advanced-level Biology and two in Engineering. Students must receive a grade designation of B or better in these five courses; which may not be taken on a S/NC basis. Students may follow the standard thesis option of the Engineering SMC program.

The Master of Public Health Program: The master of public health program at Brown is a functional collaboration between Brown University and the Rhode Island Department of Health. The Public Health Program, established in 1997, unites university-based centers, programs, and institutes dedicated to diverse topics in research and training in public health, including primary care, prevention, medical ethics, aging, addictions, and AIDS. The Rhode Island Department of Health, the state’s only public health institution, is closely linked with other public health, health care, and community-based organizations within the state.

The program is open to applicants who hold baccalaureate, master’s, and doctoral level degrees in health-related fields. The curriculum combines training in the concepts and practice of public health and health services research with analytic methods specifically applicable to these two fields. It provides students with practical field and research experiences through internships in community-based organizations, the Rhode Island Department of Health, and other health care service organizations. The program is designed for two tracks of students. Students admitted to the standard track will hold baccalaureate and/or master’s degrees and will generally complete the M.P.H. degree over a two-year period. Students admitted to the advanced placement track will typically hold doctoral-level degrees in a health-related field.

Undergraduate Programs

Please refer to bms.brown.edu/bug for current information on Biological Sciences programs, courses, research and resources.


For a complete description of these programs leading to the bachelor’s degree, please visit: http://www.brown.edu/Administration/Registrar/concentration.html
Note: Community health and neuroscience courses are listed at the end of this section. The Biology and Medicine: Community Health listing begins on page 233 and Biology and Medicine: Neuroscience listing begins on page 240.

Biology and Medicine — Biology

Courses of Instruction

Primarily for Undergraduates

3. (0030) Principles of Nutrition
Introduces the basic principles of human nutrition, 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. Written permission required. M. M. FLYNN.

6. (0060) Introduction to Human Physiology
An introduction to human physiology aimed primarily at undergraduates who are not concentrating in biology. Topics include basic cardiovascular, respiratory, kidney, gastrointestinal, endocrine, and neuromuscular function, as well as aspects of reproduction and exercise physiology. Not for biology concentration credit. BI 6 should not be taken following BI 80 or the equivalent. L. GOLDSTEIN.

8. (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. M. J. LYSAGHT.

The use of racial categories in medicine and public health is the subject of intense scholarly and public debate. This course will take an interdisciplinary approach to the debate by examining the role of science in the production of knowledge about race and how changing concepts of race have been used in science, medicine, and public health. Primarily for first and second year students. Enrollment limited. Written permission required. L. BRAUN.

17. (0170) Biotechnology and Medicine (Science and Society 57)
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. E. HAWROT and M. J. LYSAGHT.

19. (0190) Biology Foundations Courses
Students beginning in college-level biology are encouraged to choose a section of BI 19, courses that introduce biological sciences within the framework of particular topics. All BI 19 courses carry concentration credit in biology programs. In order to assure student/faculty
interaction, these sections are limited in size. BI 19 courses are often suitable for students entering with AP biology credit. Some of these courses are designated as First Year Seminars.

(0190A) *Adaptation to the Environment*
Examines the diverse natural habitats on our planet and explores the biological adaptations of animals that live in them. Considers environments such as the deep sea, high altitude, the arctic, the intertidal zone, and hot deserts. Explores the strong link between life processes and the physical constraints of pressure, oxygen availability, temperature, salinity, and water availability. Enrollment limited. Written permission required. D. C. JACKSON.

(0190D) *Biology of Basic Vertebrate Tissues*
Introduces cell biology, development, physiology, and morphology by focusing on the four basic tissues (epithelium, connective tissue, muscle, and nerve) as they contribute to the vertebrate body. Emphasizes strategies, adaptive specializations, structure/function relationships, and experimental morphogenesis. Labs include microscope examination of prepared slides, and dissection of gross specimens. For first year students only. Enrollment limited. Written permission required. M. THOMPSON.

(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. Written permission required. FYS F. JACKSON.

(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. Written permission required. M. TATAR.

(0190H) *Plants, Food, and People*
Examines plant structure, systematics, physiology, biochemistry, and genetics by focusing on crop plants, development of agriculture, and its effects on environment. Discusses biological principles of plant breeding and molecular and cellular approaches of agricultural biotechnology. Considers whether food can be produced for a world population of potentially 10 billion, while sustaining biodiversity and environmental quality. Enrollment limited. Written permission required. P. HEYWOOD.

(0190I) *Proteins: Primary Molecules of Life*
Proteins are the expression of information in our genes. They help metabolize the food we eat, transport the air we breathe, build our bodies, and color our eyes. To do so, they adopt a myriad of structural motifs. We examine the structural features of proteins and their functional consequences, as well as methods to experimentally determine or theoretically predict protein structure. Enrollment limited. Written permission required. W. PETI.
(0190K) Tropical Marine Biology
Focuses on the biology and conservation of tropical ecosystems. For students interested in careers in ecology, evolutionary biology, conservation biology. Topics: ecology of rainforest, mangrove, seagrass/coral reef ecosystems, Mayan cultures and history of Belize. Includes 8-day field trip to Belize in January, with visits to rainforest and coral reef sites and small group research projects on the Belizean reef. Limited to 10 students. Trip cost to student participants is $750. Contact: Mark_Bertness@Brown.edu. Written permission required. M. D. BERTNESS.

20. (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. K. MILLER and J. J. STEIN.

28. (0280) Introductory 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. Prerequisite: CH 35. A. S. SALOMON and G. JOGL.

30. (0300) Endocrinology
A basic examination of endocrinology with emphasis on hormone biosynthesis, mechanism of action, physiological roles, and endocrine pathology. Topics include: mechanism of action of steroid, amine, and peptide hormones; neuroendocrinology; reproductive endocrinology; and endocrinology of metabolism and calcium homeostasis. Prerequisites: BI 20 (or equivalent); CH 35. G. M. MESSERLIAN and D. J. MORRIS.

31. (0310) Introduction to Developmental Biology
An introductory level course focusing on the scientific principles and concepts governing development of animals and plants, evolutionary comparisons of these processes, and the ethical and social implications of these events. Prerequisite: BI 20 (or equivalent). Enrollment limited. Written permission required. A. FAUSTO-STERLING and P. HEYWOOD.

32. (0320) Vertebrate Embryology
Introduction to the developmental anatomy of vertebrate embryos, including humans, in an evolutionary context, through lecture, discussion and microscope slide study. Topics: gametogenesis, fertilization, cleavage, gastrulation and the formation of germ layers and organ systems. Prerequisite: BI 20 (or equivalent). Primarily for first and second year students. Students may not take both BI 31 and BI 32. Enrollment limited. Written permission required. M. THOMPSON.

39. (0390) Vertebrate Evolution and Diversity
An overview of vertebrate evolution that not only covers historical events, but also introduces various scientific concepts and modes of thought. Topics include past and present biodiversity, convergent evolution, biogeography, competition, continental drift, climatic change over time, the notion of evolution as progress, and a whole-animal approach to understanding evolutionary events. For freshmen (preferably with AP Biology) and sophomores; others by permission. Enrollment limited. Written permission required. C. M. JANIS.
40. (0400) Biological Design: Structural Architecture of Organisms
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. Freshmen and Sophomores preferred. Enrollment limited. Written permission required. S. SWARTZ.

41. (0410) Invertebrate Zoology
A survey of invertebrate phyla emphasizing evolutionary patterns and ecological relationships. Functional morphology, physiology, reproduction, development, and behavior of invertebrates will be examined in relation to environmental constraints. Laboratory exercises and two separate day-long field trips provide firsthand experience with the animals. Written permission required. M. D. BERTNESS and STAFF.

42. (0420) Principles of Ecology
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. Recommended: BI 20 (or equivalent) MA 9. Lectures and weekly discussion. J. D. WITMAN.

43. (0430) Diversity and Adaptation of Seed Plants
An introduction to the mechanisms and results of adaptive radiation in seed plants. Lectures survey the major seed families, emphasizing evolutionary mechanisms, ecological and evolutionary constraints imposed by the plant life form, and plant/animal coevolution. Highlights plants important to human civilization. Weekly labs and field trips stress local flora, identification techniques, and family recognition. Prerequisites: BI 20 (or equivalent). Enrollment limited. Written permission required. J. M. SCHMITT.

44. (0440) Plant Organism
Introduces the biology of plants, their growth and development, structural features and their response to environmental stimuli. Examines physiological, reproductive and developmental strategies in relation to environmental challenges. Discusses the significance of various plant model systems for genetic research and understanding of mechanisms controlling plant growth and development. Explores evolutionary trends and phyletic relationships of major plant groups. Prerequisites: BI 20 or (equivalent). A. D. LONG and M. A. JOHNSON.

45. (0450) Animal Behavior: Ecological and Evolutionary Determinants
An examination of the role behavior plays in survival and reproduction of animals in nature. Focuses on behavioral ecology, including avoiding predation, obtaining food and mates, communicating, producing and caring for offspring, and living in groups. Emphasizes how the study of animal behavior can itself be influenced by different approaches. Prerequisite: BI 20 or (equivalent). Enrollment limited. Written permission required. J. K. WAAGE.

46. (0460) Insect Biology
Focuses on the characteristics that make insects unique and why more insect species have been described than all other organisms combined; the opportunity they provide to investigate diversity and adaptation within a group sharing common constraints; their abundance, small size, and short lifespans; their importance as agents of biological control, pollinators, agricultural pests, and disease vectors. Prerequisite: BI 20 or equivalent. Enrollment limited. Written permission required. D. H. MORSE.
47. (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 47 after 154. Prerequisite: BI 20 or equivalent. M. McKeown and W. G. Fairbrother.

48. (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. Prerequisite: BI 20 or equivalent. D. M. Rand.

50. (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 disease, biotechnological application, and social context will be considered. Course intended primarily for sophomores and freshman with BI 20 credit. Prerequisite: BI 20 or equivalent. G. M. Wessel.

51. (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 and their genes. Prerequisites: BI 20 or equivalent; CH 33. Enrollment limited. Written permission required. R. J. Bennett.

53. (0530) Principles of Immunology
Introduction to experimental and theoretical bases of cellular immunology. Focuses on concepts, landmark experiments and recent advances. Topics: innate and adaptive immunity; immunoglobulin molecules and T-cell receptors; intracellular signals regulating immune responses. Applications of concepts to medical problems, (vaccine, transplantation, autoimmunity, cancer, AIDS). Prerequisite: BI 20 or equivalent. G. Yap and L. Brossay.

80. (0800) Principles of Physiology
Introduction to the function and integration of animal systems with an emphasis on mammals. Includes basic concepts in cell and organ system physiology as well as fundamentals of modern trends in physiological science. Emphasizes the constraints of physical and chemical principles to animal function at both the cellular and systemic levels. Prerequisite: BI 20 or equivalent. Written permission required. C. Hai, J. J. Stein, and Staff.

85. (0850) Biological and Social Context of Disease (Environmental Studies 85, Ethnic Studies 85)
Uses an interdisciplinary approach to explore how culture shapes the scientific questions we ask about disease, interpretation of scientific findings, and the strategies for intervention in the disease process. Case studies of microbial infections and chronic conditions such as cancer are used to illustrate the centrality of context to understanding disease. For related science credit in Biology programs. Prerequisite: BI 20 or equivalent. Enrollment limited. Written permission required. Staff.
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 are BI 3, plus written permission of the instructor: BI 80 preferred in addition. Enrollment limited. Written permission required. M. M. FLYNN.

Independent Study in Science Writing

Incorporates a nontechnical science journalism component via a series of assignments, based on topics derived from another biology course taken previously, whose instructor will serve as a sponsor for independent study. Assignments may include investigative reviews/features on social impacts of new discoveries. Not for concentration credit in the biological sciences programs. Proposal required. Written permission required from Dean Thompson.

For Undergraduates and Graduates

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 BI 127 and 154. Prerequisites: BI 20, and either biochemistry, cell biology and/or genetics. Graduate students register for BI 205. Written permission required. K. R. MILLER and S. A. GERBI.

Cell Biology and Biotechnology

A detailed survey of cell structure, function, and organelle evolution with particular reference to algae, fungi, and higher plants. Topics include: structure and function of organelles, mitosis, cell and organelle motility, morphogenesis, and biotechnology. The potential of plant cells as experimental systems in biological research and their uses in biotechnology are emphasized. Prerequisites: BI 20 (or equivalent); CH 35. Written permission required. P. HEYWOOD.

Organ Replacement

Organ replacement provides the foundation for contemporary substitutive medicine. Surveys the physiologic rationale and quantitative features of existing therapies (cardiac, renal, musculoskeletal), emerging technologies (regenerative medicine, tissue engineering, and stem cells). Interdisciplinary approach; suitable for students focused in biology or engineering. Prerequisites: BI 20, 17, or 80; or written permission. M. J. LYSAGHT.

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. Note: In biology programs, this course carries physical science credit. Prerequisite: CH 35. E. MATHIOWITZ.

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. Prerequisite: BI 80 or BN 1. Enrollment limited. Written permission required. J. KAUER.

112. (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. Prerequisites: BI 20, plus BI 80 or 28. B. A. ZIELINSKI.

113. (1130) Cell Structure and Movement
Movement is universal in all living systems. The cytoskeleton proteins that determine cell shape and organization are responsible for movement of whole cells and intracellular organelles. Contractile systems are considered from primitive actin-based systems, through the organized systems of smooth muscle, skeletal muscle, heart, as well as systems including the mitotic spindle, cilia, and in nerve axons. Prerequisite: A course in Physiology or Cell Biology. R. M. DOWBEN.

114. (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. Prerequisites: CH 33, and course in cell biology, physiology or histology. Enrollment limited. Written permission required. D. HOFFMAN-KIM.

115. (1150) Plant Physiology†
Plant cells, tissues, organs, and whole plants; their composition, structure, and function. Physical and chemical bases of plant growth, metabolism, and development. Water and transpiration, gas exchange, mineral nutrition, translocation, energy metabolism, nitrogen metabolism, photosynthesis, hormones, and environmental interactions in development and adaptation. Prerequisite: BI 20 or equivalent. Recommended: one at least one biology course beyond BI 20. S. BEALE.

116. (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, metabolism, energy sources, cardiovascular and respiratory effects, thermoregulation, and special topics (e.g., exercising at high altitude). Student presentations based on scientific articles are held at regular intervals. Prerequisite: BI 80 or written permission. L. GOLDSTEIN.

118. (1180) Comparative Animal Physiology
Comparative approach to the function and regulation of animal systems with an emphasis on vertebrates. Topics include circulation, gas exchange, neuromuscular function, excretion, acid-base and ion regulation, and temperature regulation. Considers the unity and diversity of physiological processes in animals differing both in phylogeny and environmental adaptation. Original papers are discussed. Prerequisite: BI 80 or equivalent. D. C. JACKSON.
119. (1190) *Synaptic Transmission and Plasticity*
Synapses are the means by which the nervous system communicates. In this seminar-style course, we will explore the molecular and physiological underpinnings of synaptic transmission. We will then examine ways in which synapses can modulate their strength during development, learning, and other adaptive processes. Prerequisites: BI 80 or BN 102. Enrollment limited. Written permission required. J. KAUAER.

126. (1260) *Physiological Pharmacology*
Presents drugs in the context of the disease they are used to treat. A group of the most commonly prescribed drugs is discussed in terms of their fundamental modes of action and clinical importance. Introduces increasingly important aspects of pharmacology such as recombinant DNA techniques and gene therapy. Prerequisite: BI 20 and BI 80. J. MARSHALL.

127. (1270) *Advanced Biochemistry* (Biology and Medicine 227)
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). Lectures complemented by review sessions and laboratory exercises. Prerequisites: BI 28 or written permission; CH 35, 36. Graduate students register for BI 227. A. R. BRODSKY and R. PAGE.

129. (1290) *Cancer Biology*
Provides a conceptual understanding of molecular events underlying development of human cancer. Focused on genetic changes leading to malignant transformation of cells. Covers cell cycle control, DNA damage, mutagenesis, cancer predisposition syndromes, oncogenic viruses, tumor immunology, metastasis, cancer chemotherapy and drug resistance. Lecture plus discussion of primary literature. Prerequisites: BI 47 or BI 50. A. ZHITKOVICH and STAFF.

131. (1310) *Analysis of Development* (Biology and Medicine 231)
Considers mechanisms underlying development. Topics: gamete interactions, establishment of body plans, cell signaling and tissue interactions, morphogenetic pattern formation, developmental regulation of gene expression, and the evolutionary conservation of developmental processes. Primary literature used in sections. Laboratory, involves work with live embryos. Prerequisites: BI 20 (or equivalent), and one additional course in the area of genetics, embryology, cell, or molecular biology. Graduate students register for BI 231. Enrollment limited. Written permission required. K. A. WHARTON and R. N. FREIMAN.

139. (1390) *Human Evolution*
An introduction to human evolution, with a primary focus on genetic evidence. Topics will include the relation of humans to other primates, the hominin fossil record, studies of ape behavior and cognition, and human population genetics/genomics. Assignments include a class presentation and a paper on a selected topic. Prerequisite: BI 47 or 48. Written permission required. STAFF.

140. (1400) *Behavioral Ecology: Evolutionary and Ecological Determinants of Animal Behavior*
Building on background from BI 45, focuses on primary literature in behavioral ecology. Topics include foraging behavior, communication, competitive behaviors, mate finding, breeding systems, parental care, and social behavior. Emphasizes experimental and comparative methods for testing theory and resolving current debates. Assumes understanding of ecological and evolutionary principles and background in organismal
biology and behavior. Prerequisites: BI 42 and 45 and junior standing. Enrollment limited. Written permission required. J. K. Waage and Staff.

141. (1410) Evolutionary Genetics
This course will focus on selected topics in molecular population genetics, molecular evolution, and comparative genomics. Classic and current primary literature at the interface of evolution and genetics will be discussed in a seminar format. The laboratory involves wet-lab exercises (allozymes, PCR-RFLP, sequencing), plus computer labs using DNA analysis packages. Students will prepare a final grant proposal on specific research interests. Offered in alternate years. Enrollment limited. Written permission required. D. M. Rand.

142. (1420) Experimental Design in Ecology
An overview and discussion of the basic principles used to design lab and field experiments in ecology and environmental science. Topics include: replication and statistical power, appropriate use of factorial designs, nonparametric methods, post hoc tests, natural versus manipulative experiments, experimental artifacts and impact study design. Discussions based on primary literature and a new text. Prerequisites: BI 42 and an introductory statistics course. Offered in alternate years. Enrollment limited. Written permission required. J. D. Witman.

144. (1440) Marine Biology
An examination of current topics in the ecology of marine organisms and communities. Current literature and ideas are analyzed in a seminar format (5hr/week). A class research project provides hands-on experience with designing and interpreting experimental field work. Prerequisites: BI 41 and 42. Offered in alternate years. Enrollment limited. Written permission required. M. D. Bertness.

145. Ecosystem Analysis (Environmental Studies 145)
Interested students should register for Environmental Studies 145.

146. (1460) Microbial Diversity and the Environment (Environmental Studies 143)
A project-based course that introduces concepts and approaches in microbial ecology (primarily bacteria) while emphasizing connections between microbiology, environmental science, human health, and policy. The first half of this course includes lectures, laboratory practicals, and guest speakers from local government agencies. The second half is devoted to original research projects. Offered in alternate years. Enrollment limited. Written permission required. Staff.

147. (1470) Conservation Biology (Environmental Studies 144)
Examines the scientific concepts behind the drivers of biodiversity extinction and approaches to mitigate biodiversity loss. Topics include the relationships between biodiversity and ecosystem functioning, historical human migrations, agricultural landscapes, global change, and economic valuation. Assumes an understanding of basic ecological theory. Projects include literature and computer analysis. Prerequisite: BI 42. Staff.

152. (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. Prerequisites: BI 53 or 155. L. Brossay.
154. (1540) Molecular Genetics (Biology and Medicine 254)
Covers advanced genetic and molecular methods and their use in analysis of complex biological phenomena such as development, signaling, behavior, and disease. Discusses molecular and genetic methods across an array of organisms, including bacteria, yeast, plants, nematodes, drosophila, fish, and mammals. Includes applications of genomic and gene cloning approaches. Prerequisites: BI 28 and 47; or permission. Graduate students should register for BI 254. J. D. SINGER and M. A. JOHNSON.

155. (1550) Biology of Emerging Microbial Diseases (Formerly BI 54)
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. Prerequisites: BI 47 and/or BI 53. A. G. CAMPBELL.

156. (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. Prerequisites: BI 28 and 47, or permission; BI 53 recommended. P. R. SHANK.

157. (1570) Signal Transduction
A broad introduction to basic mechanisms of cell signaling from the outside to the nucleus of a cell. Several complementary systems of signaling will be examined. Topics include: immune and hormonal responses; control of cell differentiation and proliferation, cell cycle, and regulations of gene expression; cell adhesion and trafficking; cell death and survival; ion channels. Relevance to health and disease will be considered. Prerequisites: BI 28, 47,50, 51 or 53 are suggested. W. CHU.

180. (1800) Animal Locomotion
How and why do animals run, jump, swim and fly? Physiology, anatomy, ecology, and evolutionary history all influence, and are influenced by, the way animals move around. We will integrate analyses from many levels of biological organization - from molecular motors, through bone-muscle systems, to biogeography - with methods and approaches from mechanics, fluid dynamics, and robotics. Offered in alternate years. Enrollment limited. Written permission required. S. SWARTZ.

182. (1820) Environmental Health and Disease (Environmental Studies 182)
Fundamental concepts relating to the adverse effects of chemical agents on human health. Topics include dose-response relationships, absorption, distribution, metabolism, excretion, mechanisms of toxicity, and the effects of selected environmental toxicants on organ systems. Many of these concepts will be reinforced through the use of a case-study approach where a pertinent environmental issue is incorporated into the ongoing lectures. Prerequisites: BI 50 or BI 80. M. HIXON.

187. (1870) Techniques in Pathobiology
A methodology course featuring laboratory and lecture instruction in established and leading-edge technologies. Examples: flow cytometry (multi-parameter analysis, cell sorting, DNA analysis, apoptosis analysis); molecular biology (PCR, in situ hybridization, southern blotting, cytogenetics, gene cloning, bioinformatics); digital imaging (image acquisition, processing and analysis); light microscopy (confocal, immunohistochemistry); transmission electron microscopy (immuno/lectin/enzyme cytochemistry); scanning electron microscopy (including x-ray microanalysis). Enrollment limited. Written permission required. P. N. Mc MILLAN and C. L. JACKSON.
188. (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, comparative osteological material, and a museum trip. Prerequisite: BI 20. Recommended: BI 19. Sec. 7, 32, or 80. Enrollment limited. Written permission required. C. M. JANIS.

192. (1920) **Topics in Social Studies of Biology**
Enrollment limited. Written permission required. S/NC.

193. (1940) **Special Topics**

194. (1940) **Special Topics**

(1940Q) **Senior Seminar: Darwinian Medicine**
This seminar focuses on evolutionary explanations of why we get sick, and how this view can affect our interpretations of medicine, including whether disease symptoms are adaptive defenses; how pathogens and human hosts co-evolve; how evolution shapes physiology; these perspectives inform the practice of health care. Students will integrate diverse biology experiences via presentations, writing, and discussion of primary literature. Enrollment limited. Written permission required. M. TATAR.

Directed research projects (predominantly laboratory-oriented) supervised by individual faculty members. Required for Sc.B. programs in Biology, Biophysics, Marine Biology, Applied Math-Biology, Biochemistry and Molecular Biology, Bioengineering, Computational Biology, and Human Biology; optional for others. Opportunities are available in both campus and hospital-based settings. Projects can serve as basis for Honors theses. Information on specific opportunities and faculty research areas are found in a research database at bms.brown.edu/bug/pages/research.html. The site also offers a student manual, proposal forms, budget request forms, and information about Honors. Required: A completed proposal form, sponsor’s and concentration advisor’s approval, and written permission from Dean Thompson (following review of proposal).

Primarily for Graduates

201. (2010) **Introduction to MCB Graduate Program Faculty Research**
Required of, and limited to, all first-year graduate students in the molecular biology, cell biology, and biochemistry (MCB) graduate program. Seminar introducing entering MCB graduate students to MCB faculty members who might serve on their thesis advisory committees or as research rotation and/or thesis research sponsors. Each faculty member presents his or her research interests in seminar format, leading discussion based on assigned articles. S/NC. STAFF.

203. **Foundations for Advanced Studies in Experimental Biology**
Covers current concepts associated with cellular and molecular repair and recovery processes that lead to increased clonogenic survival or functional capacity in mammalian cells. Topics include: repair and recovery as competing biochemical and metabolic processes after treatment with ionizing and non-ionizing radiation or chemicals, cell cycle effects, modification of response by viral or cellular oncogenes, and growth factors. For graduate students. Advanced undergraduates with permission. T. SERIO, J. LANEY, W. ATWOOD and A. DELONG.
205. (2050) *Biology of the Eukaryotic Cell* (Biology and Medicine 105)
Undergraduate students should register for BI 105. K. R. MILLER and S. A. GERBI.

206. (2060) *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. Written permission required. R. J. CRETON.

209. (2090) *Topics in Respiratory Physiology*
Advanced course in pulmonary physiology. Lecture/discussion of an aspect of the field (anatomy, ventilation, airway resistance, diffusion). Discussion and critique of primary research papers. Applications to pulmonary pathophysiology, and respiratory aspects of exercise, high altitude, and diving. Written permission required. D. C. JACKSON, J. R. KLINGER, and J. V. MEHARG.

211. (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. Prepares students for research in industry and academia, and offers information for consultants in the field. Prerequisites: BI 109, 112; CH 35, 36. E. MATHIOWITZ.

213. (2130) *Techniques in Molecular and Cell Science*
This course provides hands-on laboratory training in state-of-the-art techniques in molecular and cellular sciences, and reinforces this training with didactic lectures that stress key principles, the quantitative approach and the most exciting applications of these technologies in the context of current research. Areas covered include cell culture, tissue engineering, DNA cloning, gene therapy, quantitative assays, microscopy and image analysis. J. R. MORGAN.

214. (2140) *Principles in Experimental Surgery*
An introduction to the principles and practice of surgery, sterile technique, anesthesia, and laboratory animal care. Intended to provide highly supervised, hands-on experience in techniques for humane handling and surgical management of experimental animal subjects. Emphasizes surgical technique, anesthesia technique, and laboratory animal medicine. Prerequisite: BI 80. Written permission required. J. S. HARPER and M. GODDARD.

217. (2170) *Receptors, Channels and Signaling*
An in depth examination of the major classes of transmembrane receptors and channels and their role in biology and medicine, including structure/function relationships, molecular mechanisms of signaling, and dynamic life-cycle (trafficking, internalization). Fundamental concepts in the pharmacological characterization. Required of first-year graduate students in Molecular Pharmacology and Physiology. D. F. MIERKE and J. KAUER.

220, 221. (2200, 2210) *Current Topics in Biochemistry and Molecular Biology*

223, 224. (2230, 2240) *Artificial Organs/Biomaterials/Tissue Engineering Seminar*
Required of all first- and second-year graduate students in the Artificial Organs/Biomaterials/Cellular Technology graduate program, and open to others. Concepts
of drug delivery and tissue engineering, implantation biology, and cellular therapy, as well as the research projects directed by program faculty. Students present research seminars and participate in presentations by outside speakers. Includes Journal Club activities of the July-August period (I, 223) and the March-April period (II, 224). S/NC. D. HOFFMAN-KIM, E. MATHIOWITZ, and J. R. MORGAN.

227. (2270) Advanced Biochemistry (Biology and Medicine 127)
Undergraduate students should register for BI 127. A. S. BRODSKY and R. PAGE.

228. (2280) Protein Processing and Trafficking
Explores emerging concepts on protein trafficking, intracellular sorting and post-translational processing. Other topics are vesicular transport, exocytosis and endocytosis; sorting signals and granule membrane targeting; receptor-mediated endocytosis and lysosomal transport. Formal lectures, plus seminars presented by students on topics in the current literature. Prerequisites: Course in cell biology and/or biochemistry. For graduate students and qualified undergraduates with permission. Enrollment limited. Written permission required. E. A. NILLIN.

229. (2290) Seminar in Cell Biology
Cell Biology of Virus Entry, Replication, Pathogenesis: Course focuses on interactions between viruses and host cells that contribute to invasion, manipulation of viral and cellular gene expression, and manipulation of the host’s response to infection. Viruses studied include those that affect humans, plants, fungi, and bacteria. Format: Analysis and presentation of primary literature; discussion; preparation of a research proposal. Prerequisites: at least two of BI 105, 127, 152, 154, 156 or equivalents. Advanced undergraduates with permission. W. J. ATWOOD.

231. (2310) Analysis of Development (Biology and Medicine 131)
Undergraduate students should register for BI 131. Enrollment limited. Written permission required. K. A. WHARTON and R. N. FREIMAN.

232. (2320) Topics in Developmental Biology
A critical evaluation of current research trends in developmental biology conducted in seminar/discussion format. Topics vary yearly. Recent topics: Developmental biology of stem cells (2003, J. Coleman); Biology of reproduction (2002, G. Wessel); cell interactions and morphogen modulations (2001, K. Wharton, G. Wessel); Prerequisites: an advanced course in cellular, molecular biology, or genetics. For graduate students and qualified undergraduates with permission. May be repeated once for credit. Written permission required.

233. (2330) Current Topics in Developmental Biology
(2330A) Molecular Basis of Cell-Cell Recognition
Cells exchange information during development using molecular mechanisms that allow them to determine self from non-self, organize into tissues and organs, and grow toward specific locations. We will discuss these mechanisms from the perspectives of interactions required for development and those that result in disease. We will analyze current and classical literature on this topic. K. A. WHARTON, M. A. JOHNSON, and R. N. FREIMAN.

243, 244. (2430, 2440) Topics in Ecology and Evolutionary Biology
Current literature in ecology, behavior, and evolutionary biology is discussed in seminar format. Topics and instructors change each semester. Representative topics have included: structuring of communities, biomechanics, coevolution, quantitative genetics, life history strategies, and units of selection. Prerequisites: a course in advanced ecology and a course
in genetics. May be repeated for credit. S/NC. C. M. JANIS, J. K. WAAGE, S. SWARTZ, and STAFF.

247. (2470) Seminar in Genetics and Genomics
A critical evaluation of research in genetics and genomics in a seminar/discussion format. Specific focus will vary and will reflect areas of interest to the field, faculty and students in the genetics and genomics. Topics may include mechanisms of gene regulation, evolutionary genetics and genomics, genetic dissection of development in complex organism, dosage compensation, genetic and genomic analysis of gene and protein regulatory networks, chromosome transmission, interactions between genetic and epigenetic mechanisms. Prerequisites: BI 47 and BI 154.

248. (2480) Current Topics in Genetics

Epigenetic Inheritance and Regulation
Literature-based seminar on sex-determination and differentiation, germ line function, and related topics such as dosage compensation. Topics include mechanisms of sex-determination across animal groups, including chromosomal and environmental sex-determination, hormone signaling, egg and sperm development, and behavior. Graduate students and advanced undergraduates with permission. Written permission required for undergraduates. A. DE LONG, J. LANEY, and T. R. SERIO.

(2480A) The Molecular Genetics of Sex
A literature-based seminar on sex-determination and differentiation, germ line function, and related topics such as dosage compensation. Topics include mechanisms of sex determination across animal groups, including chromosomal and environmental sex determination, hormone signaling, egg and sperm development, and behavior. Graduate students and advanced undergraduates with permission. Written permission required for undergraduates. M. MCKEOWN.

254. (2540) Molecular Genetics (Biology and Medicine 154)
Undergraduate students should register for BI 154. J. D. SINGER and M. A. JOHNSON.

260. Human Neurobiology (BioMed-Neuroscience 260)
Interested students should register for BioMed-Neuroscience 260.

264. (2640) Advanced Topics in Microbiology and Immunology

(2640B) Topics in Microbiology and Immunology
Examines microbial pathogens and the underlying mechanisms by which they cause diseases. Bacterial, fungal, protozoal and viral pathogens will be studied using tools of modern biology. Also examined are the host responses to infection and disease. Topics: mechanisms of pathogen internationalization and survival, immune responses, signal transduction and pathophysiology. Prerequisites: BI 51, 53 or 155. Written permission required. A. G. CAMPBELL and STAFF.

(2640A) Viral Immunology
Examines microbial pathogens and the underlying mechanisms by which infectious organisms cause diseases. Bacterial, fungal, protozoal, and viral pathogens will be studied using the tools of modern biology. Also examined are the host’s immune responses to infection and disease. Areas covered include mechanisms of pathogen internalization and survival, immune responses, signal transduction, and pathophysiology. Prerequisites: BI 51, 53, or 54. Written permission required. A. G. CAMPBELL and C. A. BIRON.
268. *Ecosystem Modeling for Non-Programmers*  
(Environmental Studies 268)  
Interested students should register for Environmental Studies 268.

279. *Systemic Pathology*  
First-semester systemic pathology course building on the general principles of disease introduced in general pathology (BI 186). Objectives include learning the classification of systemic disease according to basic pathological mechanisms, describing and explaining the functional and structural changes produced by the most common diseases, and enhancing the ability to diagnose and treat patients. Runs in parallel with pathophysiology (BI 281); covers five organ system segments: cardiovascular, renal, hematology and pulmonary. S/NC. THE STAFF.

280. *Systemic Pathology*  
Third semester of a required series in pathology, building on BI 186 and BI 279, for medical students. Integrated with BI 351: Pathophysiology. Sets the conceptual framework for the pathophysiological basis of specific organ system diseases. Five segments: gastrointestinal/liver, endocrine, reproductive tract/breast with abnormalities of human development, and connective tissue disorders.

283. (2830) *Topics in Pathobiology*  
Based on readings from current research literature that focus on selected topics in pathobiology. Topics for discussion rotate each semester among four general areas of pathobiological research: the molecular basis of disease, carcinogenesis, environmental pathology, and immunopathology. Includes presentations by faculty members, student presentations, and general discussions of research literature. Written permission required for undergraduates. S/NC.

284. (2840) *Topics in Pathobiology*  
S/NC.

285. (2850) *Introduction to Research in Pathobiology*  
Introduces incoming pathobiology graduate students with research opportunities in the laboratories of program faculty. Consists of seminars with individual faculty members in the graduate program in pathobiology. Required background reading of recent papers lead to a discussion of current research in the faculty member’s laboratory. Additional discussions include safety and ethical issues in research. Open only to first-year graduate students in the program in pathobiology. S/NC. D. E. BRITT.

286. (2860) *Molecular Mechanisms of Disease*  
Examines research and modern techniques, emphasizing infectious disease and environmental exposures correlating histopathology with molecular pathogenesis: cell injury, inflammation, thrombosis and vascular disease, cancer, and toxicology. Based on BI 186 lectures plus discussion section. Prerequisites: BI 129, 205 (other 100-level biology course with approval). Textbook plus primary lecture. Required for Pathobiology graduate students, written permission for other graduate or M.P.H. students. Written permission required. E. L. BEARER and K. BOEKELHEIDE.

289. (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. No course credit. THE STAFF.

291, 292. (2995) *Thesis*  

293. (2930) *Special Topics*
294. (2940) Special Topics
295, 296. (2980) Graduate Independent Study
Independent study projects at the graduate level.
297, 298. (2985) Graduate Seminar
299. (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. No course credit. THE STAFF.

For Medical Students

300. (3000) Biology Research
P. R. Shank.

301. (3001) Clerkship in Medicine
M. J. Fagan.

302. (3020) Clinical Nephrology
L. D. Dworkin.

303. (3030) Clinical Nephrology†

304. (3040) Clinical Dermatology

305. (3050) Clinical Gastroenterology
J. R. Wands.

306. (3060) Gastroenterology
R. Y. Eid.

307. (3070) Infectious Diseases
L. A. Mermel.

308. (3080) HIV/AIDS Clinical Care Elective
E. M. Kojic.

310. (3100) Clinical Adult Cardiology
P. H. Stockwell.

311. (3110) Clinical Adult Cardiology

312. (3120) Coronary Care Unit

313. (3130) Clinical Cardiology†

314. (3140) Clinical Adult Cardiology
S. C. Sharma.

315. (3150) Longitudinal Ambulatory Clerkship in Endocrinology

316. (3160) Medicine/Pediatrics Primary Care Longitudinal†

317. (3170) Urgent Care†

318. (3180) Home Care of the Terminally Ill Patient

319. (3190) Longitudinal Ambulatory Clerkship in Comprehensive HIV Care

320. (3200) Tropical Medicine in East Africa
E. J. Carter.

321. (3210) Hospice and Palliative Care
226 / Divisions, Departments, Centers, Programs, and Institutes

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<td>Intensive Care Medicine</td>
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<td>338</td>
<td>Outpatient Internal Medicine†</td>
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<td>339</td>
<td>Psychiatry in Medical Practice</td>
<td>C. Harrington</td>
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<td>340</td>
<td>Medical Consultation in Ob/Gyn†</td>
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<td>343</td>
<td>Longitudinal Ambulatory Clerkship in Gastroenterology</td>
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<td>345</td>
<td>Medical Chinese Elective</td>
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<td>347</td>
<td>Issues Concerning Deaf Patients in Healthcare</td>
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<tr>
<td>348</td>
<td>Nuclear, Biological, Chemical Weapons of Mass Destruction Domestic Preparedness Training Seminar†</td>
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<td>349</td>
<td>Clinical Cardiology</td>
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<tr>
<td>350</td>
<td>Integrative Pathophysiology/Pharmacology</td>
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Students will attain a working knowledge of Chinese relevant to medical practice in order to better communicate with and serve Chinese-speaking patients. Open to students who are proficient in the Mandarin dialect of Chinese.

Students will gain understanding of the basics of communication with and among the Deaf, including ASL, lip-reading, current technologies, and the use of interpreters.

This course examines four organ systems—cardiovascular; pulmonary; hematology; and renal—from the perspective of the basic mechanisms of disease and pharmacokinetics.
Choices of disease topics and drug treatments are selected based upon their importance in clinical medicine, prevalence, and/or suitability to illustrate important principles or concepts.

**Integrative Pathophysiology/Pharmacology**  
Double credit. V. A. De Palo.

**Pathophysiology**  
Double credit. V. A. De Palo.

**Pharmacology**  
R. L. Patrick.

351. **Integrative Pathophysiology/Pharmacology**  
A continuation of BI350 including examination of five organ systems— infection diseases; gastroenterology; endocrinology; human reproduction; growth and development—and supporting structures.

360. (3600) **Doctoring I**  
Doctoring I is the first year of a two-year required course for first- and second-year medical students. Each semester, students spend one half-day per week in class, receiving basic instruction in such areas as patient-doctor communication, physical diagnosis skills and professionalism. Students spend an additional one half-day per week at a community site with a physician-mentor, where they apply theoretical concepts in a real-world setting. A. A. Frazzano and A. D. Monroe.

361. (3610) **Doctoring I**

362. (3620) **Doctoring II**  
Doctoring II is the second year of a two-year required course for first and second-year medical students. Each semester, students spend one half-day per week in class, receiving basic instruction in such areas as patient-doctor communication, physical diagnosis skills and professionalism. Students spend an additional one half-day per week at a community site with a physician-mentor, where they apply theoretical concepts in a real-world setting.

363. (3630) **Doctoring II**

364. (3640) **Integrated Medical Sciences I**  
This interdisciplinary course provides cross-disciplinary perspectives on basic sciences related to human biology and the field of medicine and health care.

365. (3650) **Integrated Medical Sciences II**  
This interdisciplinary course provides cross-disciplinary perspectives on basic and behavioral sciences related to human biology and the field of medicine and health care.

372. (3720) **Epidemiology in the Practice of Medicine**  
An overview of the principles of epidemiology. Focuses on developing the necessary skills for evaluating research methods used to determine disease etiology and assess the effectiveness of an intervention or a screening test. A combination of lectures and small group meetings. Uses case studies to translate the basic concepts derived from population studies to their application in the care of individual patients. K. L. Lapane.

375. (3750) **Clinical Neurology**  
J. D. Easton.

376. (3760) **Clinical Neurology**
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377. (3770) **Clinical Neurology†**
380. (3800) **Neurological Surgery**
381. (3810) **Longitudinal- Introduction to Functional Neurosurgery**
382. (3820) **Longitudinal- Ambulatory Neurology**
390. (3900) **Clerkship in Surgery**
   G. D. ROYE and T. J. MINER.
391. (3910) **Surgical Oncology**
   T. J. MINER.
392. (3920) **Surgery of the Alimentary Tract†**
393. (3930) **Physical Medicine and Rehabilitation**
394. (3940) **Surgical Intensive Care Unit**
395. (3950) **Orthopedic Surgery**
   M. M. MOTAMED.
396. (3960) **Orthopedic Surgery**
   P. G. TRAFTON.
397. (3970) **Orthopedic Surgery in the Community**
398. (3980) **Hand and Upper Extremity Surgery**
   A. C. WEISS.
399. (3990) **Pediatric Orthopedic Surgery**
   C. P. EBERSON.
400. (4000) **Outpatient Orthopedics**
401. (4010) **Clinical Principles in Anesthesiology**
   H. P. COWDIN, M. BAILIN and K. CHOI.
402. (4020) **Clinical Pediatric Anesthesiology**
403. (4030) **Basic Ophthalmology**
   R. J. HOFMANN.
404. (4040) **Ophthalmology in a Missionary Hospital**
   R. KINDER.
405. (4050) **Clinical Ophthalmology**
406. (4060) **Longitudinal- Ophthalmology**
407. (4070) **Ophthalmology**
   K. L. ANDERSON.
409. (4090) **Longitudinal Pediatric Surgery**
410. (4100) **Pediatric Surgery**
   T. F. TRACY.
411. (4110) **Basics of Thoracic and Cardiac Surgery**
   A. K. SINGH.
412. (4120) **Cardiothoracic Surgery**
413. (4130) **Cardiovascular Surgery**
414. (4140) **Endocrine Surgery**
   J. M. MONCHIK.
415. (4150) Clinical Urology
   Y. H. KIM.
416. (4160) Longitudinal- Hand Surgery
417. (4170) Plastic Surgery
   L. E. EDSTROM.
418. (4180) Advanced Clerkship in General Surgery
   A. G. GREENBURG.
419. (4190) Advanced Clerkship in General Surgery
   H. AKBARI.
421. (4210) Otorhinolaryngology
   J. P. BELLINO.
422. (4220) Head/Neck Pathology–Maxillofacial Surgery
   A. E. CARLOTTI.
423. (4230) Clinical Nutrition and Nutritional Support
   J. E. ALBINA.
424. (4240) Ambulatory Plastic Surgery
   D. T. BARRALL.
425. (4250) Trauma
426. (4260) Biological Basis of Cardiovascular Surgery†
427. (4270) Advanced Clinical Clerkship in Cardiac Surgery†
428. (4280) Advanced Clinical Clerkship in Thoracic Surgery†
429. (4290) Advanced Clerkship in Colon and Rectal Surgery
450. (4500) Pediatrics Clerkship
   R. M. ROCKNEY.
451. (4510) Pediatric Hematology–Oncology
452. (4520) Clinical Pediatric Neurology†
453. (4530) Pediatric Urology
454. (4540) Child Development and Developmental Disabilities
455. (4550) Adolescent Medicine
456. (4560) Introduction to Pediatric Cardiology
457. (4570) Pediatric Infectious Diseases
458. (4580) Pediatric Endocrinology and Metabolism
459. (4590) Ambulatory Pediatrics
461. (4610) Ambulatory Longitudinal Clinical Elective in Pediatrics
   R. M. ROCKNEY.
462. (4620) Perinatal Neonatal Medicine†
463. (4630) Advanced Clerkship in Pediatrics
   S. J. DUFFY.
464. (4640) Pediatric Critical Care†
465. (4650) Child Maltreatment
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466. (4660) Complementary and Alternative Medicine and Integrative Health Care
467. (4670) Pediatrics in a Developing Country: Cambodia
490. (4900) Obstetrics and Gynecology Clerkship
   W. P. Metheny.
491. (4910) Maternal-Fetal Medicine
   S. R. Carr.
492. (4920) Clinical Gynecology
493. (4930) Longitudinal Ambulatory Obstetrics and Gynecology Elective
494. (4940) Clinical Elective in Reproductive Endocrinology and Infertility
   G. N. Frishman.
495. (4950) Gynecologic Oncology and Pelvic Surgery
   R. G. Moore.
496. (4960) Reproductive Health†
497. (4970) Breast Disease Breast Health Ctr†
498. (4980) Care of Patients with Women’s Cancers
499. (4990) Clinical Cancer Genetics
510. (5100) Clerkship in Psychiatry
   R. J. Boland.
511. (5110) Advanced Clerkship in Psychiatry
   J. Eisen.
512. (5120) Cancer Action and Reflection
513. (5130) Substance Use Disorder†
515. (5150) Neuropsychiatry Behavioral Neurology
   S. P. Salloway.
520. (5200) Longitudinal-Outpatient Psychiatry
521. (5210) Clerkship in Child Psychiatry
   J. I. Hunt.
522. (5220) Pediatric Child Psychiatry
523. (5230) Eliciting and Understanding Psychotherapy†
526. (5260) Psychosocial Factors in Primary Care Medicine: A Biopsychosocial Model of Understanding†
527. (5270) Psychiatry of Late Life
540. (5400) Clerkship in Community Health
   P. M. Vivier.
546. (5460) Physical Medicine and Rehabilitation
   J. R. Parziale.
548. (5480) Rural Community Medicine
   J. S. Miller and P. B. Baute.
549. (5490) Geriatrics and Rehabilitation
   A. J. Curtin.
553. (5530) College Student Health
554. (5540) Controversies in Health Care Policy†
555. (5550) Political/Economic/Social/Med Assessment of Globally Devastating Endemic Disease of Min Sig to N. Amer†
557. (5570) Elective in San Lucas Toliman, Guatemala
558. (5580) Frontier Nursing Service, Mary Breckinridge Hospital†
559. (5590) Mississippi Family Health Center
560. (5600) Rural Family Practice†
562. (5620) Emergency Medicine
D. G. Lindquist and E. M. Sutton.
563. (5630) Emergency Medicine
J. M. Baruch.
565. (5650) Pediatric Emergency Medicine
G. R. Lockhart.
567. (5670) Lessons of AIDS†
569. (5690) Spirituality and Medicine†
571. (5710) Medical Students Outreach to Mothers
J. E. Kacmar and J. S. Taylor.
572. (5720) Introduction to Multidisciplinary Fetal Medicine
580. (5800) Clerkship in Family Medicine
J. S. Taylor.
581. (5810) Maternal and Child Health Elective
582. (5820) Elective in Family Medicine
D. Anthony.
583. (5830) Family Medicine Longitudinal Ambulatory Clerkship
D. Anthony.
584. (5840) Serving the Community through Student-Initiated Projects
586. (5860) Prevention Cardiology Nutrition†
587. (5870) Balint Group
589. (5890) Outdoor Medicine and Intern Survival†
590. (5900) Art and Medicine Seminar
C. Chuang.
601. (6010) Human Morphology II
611. (6110) Applied Pathology
M. Resnick.
612. (6120) Research in Pediatric Pathology
M. H. Pinar.
614. (6140) Seminar in Developmental and Pediatric Pathology
M. H. Pinar.
626. (6260) Radiation Oncology in Free Standing Facility
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<tr>
<th>Course</th>
<th>Title</th>
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<tr>
<td>628. (6280)</td>
<td>Diagnostic Radiology and Nuclear Medicine</td>
<td>B. A. Shapiro</td>
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<tr>
<td>629. (6290)</td>
<td>Preceptorship in Diagnostic Radiology</td>
<td>D. M. Golding</td>
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<tr>
<td>630. (6300)</td>
<td>Clinical Nuclear Medicine Preceptorship</td>
<td>R. B. Noto</td>
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<td>632. (6320)</td>
<td>Vascular and Interventional Radiology</td>
<td>G. M. Soares</td>
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<td>633. (6330)</td>
<td>Cross-Sectional Imaging in Clinical Medicine</td>
<td>B. L. Murphy</td>
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<td>634. (6340)</td>
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<td>636. (6360)</td>
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<td>Pediatric Radiology</td>
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<td>639. (6390)</td>
<td>Introduction to Women’s Imaging</td>
<td>B. Schepps</td>
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<td>640. (6400)</td>
<td>Clinical Radiation Oncology: A Major Discipline in Cancer Management</td>
<td>D. Wazer</td>
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<tr>
<td>680. (6800)</td>
<td>Elective in Biotechnology</td>
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Biology and Medicine — Community Health

The Department of Community Health offers an undergraduate concentration program. For a complete description of the standard concentration program leading to the A.B. degree, please visit http://www.brown.edu/Administration/Registrar/concentration.html.

Courses of Instruction

Primarily for Undergraduates

2. Medicine, Law and Morality (University Courses 2)
Interested students should register for University Courses 2.

3. (0030) Health of Hispaniola
Two developing countries, Dominican Republic and Haiti, have widely differing health outcomes despite centuries of shared experience on the Caribbean Island of Hispaniola. This course will examine the history, politics, economics, culture, international relations, demography, and geography, as well as epidemiology and health services, to demonstrate that multiple factors, both recent and long-standing, determine the present health of these populations. Enrollment limited. Written permission required. T. M. EMPKIE.

7. (0070) Cost Versus Care: the Dilemma for American Medicine
Students grapple with knotty health policy problems including malpractice, the uninsured, drug abuse policy, national health insurance, rationing, and ethics. Active engagement with the issues occurs through seminar discussions, debates, and weekly service learning in the community. The emphasis is on critical thinking and analysis, not memorizing facts. Especially appropriate for PLME students. Freshmen and sophomores only. Enrollment limited. Written permission required. S. R. SMITH.

23. Culture and Health (Anthropology 23)
Interested students should register for Anthropology 23.

24. Human Evolution (Anthropology 31)
Interested students should register for Anthropology 31.

31. (0310) Health and Society—Health Care in the United States
Introduction to the health care delivery system. An overview of the U.S. health care financing, delivery and regulatory system. Considers the interaction between paying for, providing and assuring the quality of health services; changes in one component of the system inevitably affect the others. Addresses the balance between employer funded health insurance, publicly funded health insurance and the consequences of not being insured. Six discussion sections arranged during the semester. V. MOR.

32. (0320) Introduction to Public Health
An introductory overview of the U.S. Public Health System with an emphasis on the core functions of public health, challenges and strategies for working with communities, and specific health issues that impact the health of the population. Presents a comprehensive overview of the environmental and behavior factors associated with health promotion and disease prevention. Enrollment limited. M. A. CLARK.

For Undergraduates and Graduates

101. (1010) Doctors and Patients—Clinical Communications in Medicine
Communication is central to medical practice, and interpersonal relationships between patients and physicians can often be powerful curative agents. This course reviews theory
and research on physician–patient communication. In addition to lectures, readings, and discussions, students will have opportunities to observe physicians in clinical settings. Related topic areas include communication sciences, health psychology, health education, and medical anthropology.

107. (1070) The Burden of Disease in Developing Countries (Anthropology 97, Environmental Studies 107)
Defines and critically examines environmental, epidemiologic, demographic, biomedical, and anthropological perspectives on health and disease in developing countries. Emphasis on changes in the underlying causes of morbidity and mortality during economic development. Focuses on the biosocial ecology of diseases. Guest lecturers cover different diseases and public health perspectives. Enrollment limited. Written permission required. S. T. McGarvey.

110. (1100) Comparative Health Care Systems
Focuses on principles of national health system organization and cross-national comparative analysis. Emphasizes application of comparative models to the analysis of health and health-related systems among nations at varying levels of economic development and health care reform. Addresses research questions related to population health and systems’ performance. Questionnaire completion required. Enrollment limited. Written permission required. A. M. Tinajero.

132. (1320) Survey Research in Health Care
Emphasizes application of survey research methods and skills to current health care policy issues. Topics include survey design, implementation, and analysis and interpretation. Students analyze a large sample survey using statistical software packages. Intended as a junior-level course in preparation for the senior research projects of concentrators in community health. Prerequisite: BC 32. S. M. Allen.

136. Health Economics† (Economics 136)
Interested students should register for Economics 136.

141. Aging and the Quality of Life (Sociology 141)
Provides a broad-based knowledge of the aging process and its impact on the quality of life of elders. Explores physical, psychological, social, cultural factors. Assesses different approaches to meeting needs of elders and providing high quality care and examines consequences of an aging population for social institutions. Prerequisites: SO 1 or 2 and BC 7 or 31, or permission of the instructor.

146. The Doctor as Subject, the Doctor as Author (English 176)
Interested students should register for the appropriate section of English 176.

Problems and issues surrounding delivery of emergency medical services in U.S. Topics: cost of illness; rationing health care; living wills; malpractice and its effects; effects of alcohol and other risk behavior. Priority to community health concentrators and PLME students pursuing MPH degree. Permission granted based on completion of questionnaire obtained from Community Health Program Coordinator. Enrollment limited. Written permission required. B. M. Becker.

154. Human Needs and Social Services (Sociology 154)
Interested students should register for Sociology 154.

155. Sociology of Medicine (Sociology 155)
Interested students should register for Sociology 155.
168. (1680) Social and Community Medicine
A series of seminars on major current issues in public health and health care delivery.

170. Environmental Health and Policy
This course examines scientific and public policy conflicts over how to address environmental factors impacting human health. Students develop a basic knowledge of risk assessment, including hazard identification; exposure assessment and fate and transport of environmental toxics; risk management and communication; principles of data interpretation and application to environmental policy-making. Prerequisite: ES11 or permission of the instructor. Half credit. R. A. MORELLO-FROSCH.

171. Environmental Health and Policy (Environmental Studies 171)
Interested students should register for Environmental Studies 171.

172. Environmental Justice- The Science and Political Economy of Environmental Health and Social Justice (Environmental Studies 172)
Interested students should register for Environmental Studies 172.

174. (1740) Principles of Health Behavior and Health Promotion Interventions
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 juniors, seniors, and graduate students. Prerequisite: BC 32. Enrollment limited. Written permission required. W. RAKOWSKI.

191. (1910) Community Health Senior Seminar: Health and Human Rights
Violations of human rights are particularly relevant to population health. Discrimination and stigmatization, health policies, civil and international conflicts, and practices in biomedical and behavioral research contribute to population patterns of disease, injury, and disability. Principles of human rights and their application to current crises are the basis for seminar discussion. Prerequisite: Senior Community Health concentrator. M. LURIE.

192. Health and Healing in American History† (Biology and Medicine 192)
Interested students should register for the appropriate section of Biology and Medicine 192.

195, 196. (1970) Independent Study
A special project may be arranged in consultation with an individual faculty sponsor. One semester of independent research, leading to a senior thesis, is required for concentrators in community health.

Primarily for Graduates

203. (2500) Introduction to Biostatistics
The first in a two-course series designed for students who seek to develop skills in biostatistical reasoning and data analysis. Offers an introduction to basic concepts and methods of statistics as applied to diverse problems in the health sciences. Methods for exploring and presenting data; direct and indirect standardization; probability; hypothesis testing; interval estimation; inference for means and proportions; simple linear regression, etc. Statistical computing is fully integrated into the course. J. D. BLUME.

207. (2501) Introduction to Multivariate Regression (BioMed-Community Health 208)
The first in a series of two-half semester courses on regression methods, designed for students who seek to develop biostatistical reasoning and data analysis skills. This course provides an introduction to multiple linear and logistic regression models as applied to
diverse problems in the health sciences. BC 203 or equivalent is a prerequisite. Half credit. J. D. BLUME.

208. (2502) *Regression Analysis Discrete and Event Time Data* (BioMed-Community Health 207)
The second course in the sequence on Introductory Biostatistics methods. This course will focus on regression methods (multiple linear regress, ANOVA, ANCOVA) and their natural extensions such as Logistic and Poisson regression in applications to diverse problems in the health sciences. Additionally, this course will cover regression methods for time to event data such as Cox regression for survival data. BC 203 or equivalent is a prerequisite. Half credit. J. D. BLUME.

212. (2120) *Introduction to Methods in Epidemiologic Research*
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 epidemiologic methods, students learn core principles of study design and data analysis through critiques of published epidemiologic studies as well as hands on practice through weekly exercises and assignments. S. ZIERLER.

213. (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. Prerequisites: MA 10 or equivalent. Open to advanced undergraduates with permission. Written permission required. THE STAFF.

216. (2511) *Applied Regression Analysis*
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. Primarily for graduate students and advanced undergraduates. Prerequisites: BC 213 or equivalent and working knowledge of matrix algebra. Written permission required. THE STAFF.

218. (2180) *Critical Epidemiology*
This advanced graduate seminar is a critical history of epidemiologic concepts and methods, emphasizing 19th century to the present. Students build on teachings from BC 212 to understand and apply theoretical challenges of disease definitions and causal thinking. Weekly reading and writing assignments strengthen skills in awareness of belief systems and construction of facts within specific ideologic frameworks. Prerequisite: BC 212. S. ZIERLER.

220. (2200) *Advanced Methods in Epidemiologic Research*
Reinforces the concepts and methods taught in BC 212, with in-depth instruction in study design, confounding, model construction, measurement error, estimation, effect modification, and causal inference. Prerequisites: BC 212, 213, 216. K. L. LAPANE.

222. (2220) *Special Topics Series: Epidemiology Substantive Courses*
The epidemiology of specific diseases or conditions—for example, reproductive epidemiology, infectious disease and cancer—either individually or in combination. Prerequisites for all sections: BC 212.
225. (2020) Disability Over the Life Course† (Sociology 225)
An overview of the epidemiology of physical and cognitive disability in America, associated patterns of medical and social service use, and current as well as “ideal” population-specific systems of formal and family care. Also explores medical, social, and psychological needs associated with the stage of life in which disability is experienced. Prerequisites for advanced undergraduates are BC 31 or SO 155, and introductory statistics. S. M. ALLEN.

230. (2080) Ethics and Public Health
Uses case study strategies to: identify key ethical principles and values relevant to public health practice and research; evaluate public health research designs in terms of ethical principles; conduct ethical analyses of public health interventions by identifying potential ethical concerns and conflicts; and employ strategies for working effectively with special populations, including the design of culturally appropriate interventions. L. J. RAIOLA.

234. (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. Prerequisites: introductory epidemiology and statistics. STAFF.

235. (2350) Decision Analysis Public Health Policy and Practice
Introduces methods and applications of decision analysis, cost-effectiveness analysis, and benefit-cost analysis in public health policy and practice, including health care technology assessment, medical decision making, and health resource allocation. Examines technical features of these methods, problems associated with implementing them, and advantages and pitfalls in their application in setting public health policy. Prerequisites: BC 213 and BC 212 or equivalent. M. SCHLEINITZ.

236. (2710) Designing, Implementing and Evaluating Public Health Interventions
Provide students with skills in conceptualizing, planning, implementing and evaluating public health interventions. Levels of intervention include individual/family behavior change; trials at the organization level; community-based interventions; social marketing and health communication efforts; and regulatory policy of environmental changes. Behavior change theories; intervention mapping; cultural sensitivity and ethical considerations are examined. Written permission required for undergraduates. K. M. GANS.

237. (2040) Applied 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. M. A. CLARK.

238. (2720) Health Policy and Advocacy
Students will design and implement the initial stages of their own health advocacy campaign, selecting a public health issue of their choice. Students will learn how to write advocacy materials including opinion editorials, briefing materials for legislators, grants for funding to support advocacy projects, and techniques for coalition building. Enrollment limited. Written permission required. D. C. LEWIS.
240. (2400) *Determinants and Consequences of Changing Health Care Systems*
Provides an historical perspective on the development and evolution of the health care delivery and financing systems in the U.S. and reviews the literature on the relationship between health system structure and the services used and health outcomes populations experience. A case-study approach is used to understand the inter-relationship between the financing, delivery and regulatory components of the health system drawing on epidemiological, economic, political and sociological principles. V. MOR.

241. (2410) *Topics in Health Services Research*
Individual sections provide in-depth coverage of methodological issues relating to health service research, including outcome research, analysis of administrative data, advanced principles of multi-stage sampling, and associated analysis. Prerequisites: BC 212, 213, and 217.

242. (2420) *Health Program and Policy Analysis*
Examines contributions of research to program development and policy decision-making. Explores methodological strategies to evaluate intended and unintended impacts of program and policy implementation. Examples are presented from public health, human services, and health care arenas. Students design and implement their own program or policy, conducting secondary analysis of an existing survey or administrative data set. Prerequisite: BC 213. S. M. ALLEN.

244. (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. T. T. WETLE.

246. (2075) *MPH Analytic Internship*
The primary objective of this course is to gain hands-on experience in using data to address public health questions. Concepts from previous courses will be re-enforced as students work through the steps of addressing the public health question. Both data analysis and data interpretation will be emphasized in the context of a public health question. STATA 8.0 will be used to analyze data. Prerequisites: BC 203 and BC 212 S. H. WEITZEN.

250. (2600) *Modern Methods for Categorical Data Analysis*
Investigates theory and methods for drawing inference from discrete categorical data, including contingency tables, measures and tests of association, sampling distributions, goodness-of-fit, and both large- and small-sample inference. Other topics include modeling binary, ordinal, and multinomial data; repeated measures; and matched pair study designs. Prerequisites: BC 213, 216, and familiarity with statistical inference at AM 165–166 level. Z. J. WU.

251. (2601) *Generalized Linear Models*
Generalized linear models provide a unifying framework for regression. Important examples include linear regression, log-linear models, and logistic regression. GLMs for continuous, binary, ordinal, nominal, and count data. Topics include model parameterization, parametric and semiparametric estimation, and model diagnostics. Methods for incomplete data are introduced. Computing with modern software is emphasized. Prerequisites: AM 167, BC 216. THE STAFF.
252. (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. Prerequisite: Intermediate-level courses in biostatistics: BC 213, 216 or equivalent. THE STAFF.

253. (2603) Analysis of Longitudinal Data
Comprehensive coverage of methods for drawing inference from longitudinal observations. Theoretical and practical aspects of modeling, with emphasis on regression methods. Topics include: multilevel and marginal models; estimation methods; study design; handling dropout and nonresponse; methods for observational data (e.g. time-dependent confounding, endogeneity, selection bias). SAS and S-Plus software are used. Prerequisite: Statistical inference (AM 165–166 at minimum), regression (BC 216), working knowledge of matrix algebra (e.g. MA 52). J. HOGAN.

254. (2070) Public Health/Community Service Internship
The course is an introduction to the history, organization, resources, concepts and issues of public health and health care. Students will be matched according to their interests in a related practical experience in a health-related organization, with the expectation that they complete a project or produce a product of public health utility. This gives students an opportunity to critically apply knowledge and skills learned in didactic sessions. P. M. VIVIER.

257. (2520) Statistical Inference I
First of two courses that provide a comprehensive introduction to the theory of modern statistical inference. BC 257 presents a survey of fundamental ideas and methods, including sufficiency, likelihood based inference, hypothesis testing, asymptotic theory, and Bayesian inference. Measure theory not required. Prerequisites: MA 12, MA 161, and either AM 165–166 or BC 213–216. THE STAFF.

258. (2580) Statistical Inference II
This sequence of two courses provides a comprehensive introduction to the theory of modern inference. BC 258 covers such topics as non-parametric statistics, quasi-likelihood, resampling techniques, statistical learning, and methods for high-dimensional Bioinformatics data. Prerequisites: BC 257 or equivalent. THE STAFF.

260. (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: AM 165–166, BC 213–216, or equivalent. THE STAFF.

261. (2620) Statistical Methods in Bioinformatics, I
Introduction to statistical concepts and methods used in selected areas of bioinformatics. Course is organized in three modules, covering statistical methodology for: (a) gene expression studies, with emphasis on DNA microarray data, (b) proteomics studies, (c) analysis of biological sequences. Succinct discussion of biological subject matter will be provided for each area. Available software will be introduced. Prerequisite: Statistics background at the level of BC 213–216 or BC 203–207/8. Z. J. Wu.
267. (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. Prerequisites: BC 216; MA 161, familiarity with object-oriented programming (e.g. R, S-Plus, Matlab). THE STAFF.

269. (2690) **Advanced Topics in Biostatistics**

Seminars and topics course on advanced methods or applications of biostatistics, or new and innovative research. Pre-requisites: Typically intended for advanced PhD students in biostatistics, public health, and fields where advanced methods are directly applicable. Prerequisites will typically include BC 213 and 216 at minimum.

285. (2090) **Development of a Research Proposal in Public Health**

Addresses methodologic and operational issues associated with developing research studies in epidemiology (including clinical trials). Students prepare protocols for research studies in human populations with attention to ethical guidelines and regulations. Students critique completed proposals, are exposed to existing systems for submission and review of funding applications, as well as controversial issues such as conflict of interest. Enrollment limited. S/NC. THE STAFF.

295, 296. (2980) **Graduate Independent Study and Thesis Research**

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

297, 298. (2985) **MPH Independent Study for Thesis Preparation and Research**

Optional half credit course provides MPH students with self-directed thesis research and preparation under guidance of thesis advisor. Prior to taking course, student and advisor must agree on definition of satisfactory course completion (e.g., satisfactory literature review, completion of specific thesis benchmarks, or thesis completion). MPH students may count up to two credits of MPH Independent Study towards degree.

299. (2990) **Thesis Preparation**

No course credit.

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**Biology and Medicine — Neuroscience**

Neuroscience encompasses those fields of knowledge important to an understanding of the function of the nervous system, particularly the brain. It brings together neurobiology (anatomy, physiology, biochemistry, molecular biology, genetics) with elements of psychology and cognitive science, as well as mathematical and physical principles involved in modeling neural systems.

The Department of Neuroscience offers an undergraduate concentration leading to the Sc.B. degree and a graduate program leading to the Ph.D. degree. In addition to the courses offered by the department, these programs include courses taught in several allied departments. The Department of Neuroscience has modern facilities for conducting research in a broad range of areas from molecular mechanisms to animal behavior and undergraduate students are encouraged to pursue research projects.

For a complete description of the Neuroscience concentration program leading to the Sc.B. degree, please see the department’s website: http://neuroscience.brown.edu/ or visit http://www.brown.edu/Administration/Registrar/concentration.html.
Graduate Program

The graduate program in neuroscience is designed to educate and train scientists who will become leaders in the field and contribute to society through research and teaching. Each student takes a series of courses tailored to his or her background and goals, chosen in consultation with faculty advisors. Each student must also pass a comprehensive examination, propose and defend a thesis topic, complete a substantial body of original research, and write and defend a doctoral dissertation. The core of the training involves close interaction with faculty to develop expertise in biological, behavioral, and theoretical aspects of neuroscience. Interdisciplinary work is encouraged and may be undertaken in the Departments of Neuroscience, Cell and Molecular Biology, Pharmacology, Ecology and Evolutionary Biology, Physiology, Psychology, Cognitive and Linguistic Sciences, Physics, Computer Science, and Applied Mathematics.

In addition to formal course work and research, a number of activities and events enhance graduate training. There are numerous seminar series, including the Neuroscience Colloquium Series, in which speakers from U.S. and international universities and research institutes present their latest research findings. Throughout the academic year, journal clubs meet weekly to discuss the most recent research literature. Recent journal clubs have focused on molecular neurobiology, cellular neurophysiology, computational neuroscience, synaptic plasticity and development, learning and memory, motor control, and visual physiology and perception, and skills. There is an annual workshop on scientific ethics and skills that is specifically designed for graduate students. Near the beginning of each academic year there is a neuroscience graduate program retreat that is an occasion for social interaction and, through talks by program faculty, an update of ongoing research within the program.

Graduate research and training are carried out in the laboratories of the program’s faculty, which are well equipped for state-of-the-art studies of the nervous system. Methods currently in use include patch clamping and single ion channel analysis, molecular biological techniques, in situ and in vitro electrophysiological analyses of sensory and motor systems, light and electron microscopy, two-photon microscopy, high-dimensional simultaneous microelectrode recording, high performance liquid chromatography, microdialysis, behavioral neurophysiology, psychophysical and behavioral analyses, functional MRI, and mathematical modeling and computer simulation of neural systems. Large-scale shared facilities exist for microscopy, computers, mouse transgenics, functional MRI, animal care, electronics and machine shops.

Courses of Instruction

Primarily for Undergraduates

1. (0010) The Brain: An Introduction to Neuroscience
   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. J. J. STEIN, M. A. PARADISO, and R. L. PATRICK.

19. (0190) Seeing with Sound: The Biology of Bats and Dolphins
   Bats and dolphins use biosonar, or echolocation, to perceive their surroundings. This seminar will examine how their biology has come to depend on this acoustic mode of perception. Enrollment limited. Written permission required. J. A. SIMMONS.
65. (0650) Biology of Hearing
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: BN 1. J. A. SIMMONS.

For Undergraduates and Graduates

102. (1020) Principles of Neurobiology
A lecture course covering fundamental concepts of molecular and cellular neurobiology. Topics include structure of ion channels, synaptic transmission, synaptic development, molecular mechanisms of synaptic plasticity, learning and memory and neurological diseases. Prerequisites: BN 1 and BI 20. A. DUNAEVSKY and C. D. AIZENMAN.

103. (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: BN 1 or the equivalent. D. SHEINBERG.

104. (1040) Developmental Neurobiology
Explores the fundamental mechanisms underlying neural development. Topics include patterning of the nervous system, birth and death of neurons, axon guidance, and the formation, maintenance, and plasticity of synaptic connections. Emphasizes the cellular, molecular, and genetic basis of these events and how these basic processes interact with experience to shape the brain. Illustrations are drawn from systems ranging from worms to humans. Requirements: BN 102 and BI 20, or written permission. J. R. FALLON.

160. (1600) Experimental Neurobiology
A laboratory experience in neuroscience with emphasis on cellular neurophysiology. Laboratory sessions are supplemented by informal lectures designed to introduce topics and to discuss experimental approaches and concepts. Prerequisites: BN 1, 102; PH 3 or equivalent. Enrollment limited. Written permission required. S/NC. J. J. STEIN.

165. (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: BN 1, 102, and 103. Enrollment limited. Written permission required. D. M. BERSON.

166. (1660) Cognitive Neuroscience
Lecture course. Emphasizes the systems approach to neuroscience and examines several neural systems that mediate perception, action, higher visual and motor processing, learning, memory, attention and emotion. The course focuses on experiments involving behavioral electrophysiology and discusses mechanisms mediating neural activity that mediates cognition. Prerequisites: BN 1 and 103 or permission. M. R. MEHTA.

167. (1670) Neuropharmacology and Synaptic Transmission
Synaptic transmission will be studied from a biochemical and pharmacological point of view. We will explore the factors regulating neurotransmitter synthesis, storage, release, receptor interaction, and termination of action. Proposed mechanisms of psychoactive drugs and biochemical theories of psychiatric disorders will be examined. Recommended: BN 1 and BI 20 or the equivalent. R. L. PATRICK.
168. (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: BN 1, 102 or 103; AM 41 or AM 165, or equivalent. Enrollment limited. Written permission required. L. J. BIENENSTOCK.

171. (1710) Neuroimaging
A survey of neuroimaging methods. Provides neuroimaging examples for clinical and basic research, with an emphasis on magnetic resonance methods for structural and functional imaging. Surveys other imaging modalities including PET, optical, CSD and EEG/MEG electrical source localization. Prerequisites: MA 10, BN 1 or equivalent.

193, 194. (1930, 1940) Topics in Neuroscience
Seminars on selected topics in neuroscience designed to examine recent research, with an emphasis on critical reading of original research reports. Topics vary from year to year. Preference given to senior neuroscience concentrators. Prerequisites: BN 102, 103.

Cerebral Localization
This reading course will explore historical and current perspectives on the issue of cerebral localization, with a particular emphasis on understanding the effects and limitations of direct brain stimulation. Prerequisite: BN 103. Enrollment limited. Written permission required. D. SHEINBERG

Current Topics in Theoretical Neuroscience
This seminar course will discuss current research in theoretical neuroscience. It will focus on computational models that are closely related to experimental data. Enrollment limited. Written permission required. M. MEHTA.

(1930B) From Neurons to Perception
This seminar will use readings from the research literature to explore the neural basis of perception. Prerequisites: BN 1, BN 102, BN 103. Enrollment limited. Written permission required. M. A. PARADISO.

(1930E) Great Controversies in Neurobiology
This upper-level course examines some of the great controversies in the history of neurobiology. Reading material is drawn primarily from the primary scientific literature, so students are expected to already be familiar with reading scientific papers. Each theme will focus on a particular controversy, examining experimental evidence supporting both sides of the issue. Enrollment limited. Written permission required. C. D. AIZENMAN.

(1940B) Neuroethology
Neuroethology is concerned with the neural systems serving such naturally occurring behaviors as orientation in the environment, finding food, predator detection, social communication, circadian and seasonal rhythms, and locomotion and tracking. This seminar will examine selected examples of the neuroethological approach to analysis of brain function, which sometime leads to conclusions different from those of laboratory-based experiments on traditional animal models. Enrollment limited. Written permission required. J. SIMMONS.

(1930C) Topics in Molecular Mechanisms of Synaptic Development
Through readings of original manuscripts, the cellular and molecular mechanisms underlying synapse formation and maturation are examined. Topics include: intrinsic versus extrinsic factors regulating neuronal development, cell-cell interactions
(neurons and glia), the role of adhesion, neurotrophic and cytoskeletal molecules and synapse development. Enrollment limited. Written permission required.

A. DUNAEVSKY.

195. (1970) Independent Study
Laboratory-oriented research in neuroscience, supervised by staff members. A student, under the guidance of a neuroscience faculty member, proposes a topic for research, develops the procedures for its investigation, and writes a report of the results of his or her study. Independent study may replace only one required course in the neuroscience concentration. Prerequisites include BN 1, 102, and 103.

Primarily for Graduates

201, 202. (2010, 2020) Graduate Proseminar in Neuroscience
A study of selected topics in experimental and theoretical neuroscience. Presented by neuroscience faculty, students, and outside speakers. A required course for all students in the neuroscience graduate program. D. LIPSCOMBE.

203. (2030) Advanced Molecular and Cellular Neurobiology
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. D. LIPSCOMBE.

204. (2040) Advanced Molecular and Cellular Neurobiology
This course continues investigation of 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 neural development. Topics include the patterning of the nervous system, birth and death of neurons, guidance of nerve processes to their targets, and formation, maintenance and plasticity of synapses. Enrollment limited to graduate students. D. LIPSCOMBE.

205. (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. Computational approaches will become integrated into the material. Topics include the major sensory, regulatory, and motor systems. Enrollment limited to graduate students. J. SANES.

206. (2060) Advanced Cognitive 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. Enrollment limited to graduate students. J. SANES.

211. (2110) Seminar in Higher Cortical Function
An advanced seminar emphasizing neurophysiological, computational, and psychophysical studies of forebrain mechanisms involved in higher cortical function. Involves reading and discussion as well as written and oral critiques of primary literature. Topics such as neural representations, coding mechanisms, and cognition are discussed. Offered in alternate years. J. DONOGHUE.
212. (2120) *Topics in Visual Physiology*†
Selected topics in visual physiology are examined through a close and critical reading of original research articles. Emphasizes the anatomical and physiological bases of visual function. Primarily for graduate students with a strong background in neuroscience and a working knowledge of the anatomy and physiology of the mammalian visual system. Offered in alternate years. D. M. BERSON.

215. (2150) *Cells and Circuits of the Nervous System*†
Selected topics on the biology of neurons and neuronal networks emphasizing original research literature about the membrane physiology, transmitter function, synaptic plasticity, and neural interactions of different vertebrate central nervous systems. Primarily for graduate students with a background in basic neurobiology, or undergraduates with permission. Offered alternate years. B. W. CONNORS.

216. (2160) *Neurochemistry and Behavior*
Examines behavior from a neurochemical perspective via readings and discussions based on original research articles. Intended primarily for graduate students with a strong background in neurochemistry and neuropharmacology. Enrollment is also open to advanced undergraduates with an appropriate background. Offered alternate years. Written permission required for undergraduates. S/NC. R. L. PATRICK.

260. (2600) *Human Neurobiology* (Biology and Medicine 260)
A survey of the anatomy and physiology of the human nervous system emphasizing clinical aspects. Part of the first-year curriculum of the Brown Medical School; not appropriate for undergraduates or graduate students. Prerequisites: BI 117, 181, and 189, or written permission. B. W. CONNORS and J. P. DONOGHUE.

289. (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. No course credit. D. LIPSCOMB.

293, 294. (2930, 2940) *Advanced Topics in Neuroscience*

(2940H) *Ethics and Skills Workshop*
The ethics and skills workshops will be lead by faculty trainers in the Neuroscience Graduate Program. We will cover the following or similar topics over a two year period: Plagiarism, scientific accuracy, data ownership, expectations of advisory committees and mentors, authorship disagreements, and conflicts among lab members. Enrollment restricted to graduate students. D. LIPSCOMB.

*History of Neuroscience*
Part of a two year sequence focusing on the conceptual foundations in the history of neuroscience, from the late nineteenth century to the present. Primarily for graduate students in neuroscience, cognitive science, and psychology, but senior undergraduates may be admitted with written permission from the instructor. Seminar meets monthly, and must be taken for the full year to receive one semester credit. Written permission required for undergraduates. S. GREENBLATT.

(2940C) *Mechanisms of Neurological Disease*
What can basic science teach us about neurological disease, and how do these disorders illuminate the workings of the normal nervous system? Diseases caused by single gene defects, e.g. schizophrenia, will be considered. Emphasis will be on the cellular and molecular basis of these disorders. Offered alternate years. J. FALLON.
Graduate Independent Study

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. No course credit. D. LIPSCOMBE.

Institute for Brain and Neural Systems

Members of the Institute for Brain and Neural Systems include faculty from Brown University as well as various other Universities and Institutes in the United States and abroad.

Members of the Institute conduct research in brain function and neural systems that draws on biology, psychology, mathematics, engineering, physics, linguistics, and computer science. Their overall goal is a deeper understanding of the basic processes by which the central nervous system learns and organizes itself and acquires the capacity for mental acts. The Institute is especially interested in the interaction between theoretical ideas and experimental results. Current areas of research include theories of cortical plasticity, cellular and molecular mechanisms underlying learning and memory storage, the analysis and application of artificial neural networks and signal processing.

Leon N Cooper, Thomas J. Watson Sr. Professor of Science, is the director of the Institute.

For additional information please visit the Institute’s website at: http://www.physics.brown.edu/research/detail.asp?id=2

Brain Science

Brown’s Brain Science Program (BSP) was formed to tackle one of the greatest mysteries of man: How do our brains work? The Graduate Program of the BSP is designed to provide interdisciplinary training across cognitive, neural, and computational sciences. It emphasizes collaborative theoretical and experimental studies of the brain, from the molecular to the behavioral and cognitive levels. It unites researchers who study the fundamental mechanisms of nervous system function and those who seek to create devices with brain-like functions that can assist people. The faculty is also committed to translating fundamental knowledge into practical applications to the diagnosis and treatment of the devastating effects of disease and trauma of the nervous system. Brown is a leader in brain-related research and offers exceptional training and course work for those interested in pursuing careers in brain science.

The Graduate Program accepts applications from students with American and non-American citizenship and considers the merits of the applicants equally. The general GRE test is required of all applicants. Admission to the BSP in either of the two tracks (see below) is highly competitive. Each applicant is encouraged to identify and contact specific BSP faculty members whose research he/she finds particularly interesting.
Program Structure and Requirements for the Doctor of Philosophy

The BSP offers two alternative tracks. In the first and most commonly used track, a student applies to the graduate program of one of the core BSP departments (Applied Mathematics, Cognitive and Linguistic Sciences, Computer Science, Engineering, Neuroscience, Physics, Psychology), and includes a statement indicating that he/she is interested in interdisciplinary brain studies. Once a student has been accepted into a home department’s program, he/she will be nominated for membership in the BSP. The BSP Advisory and Training Committee will then review the nomination. If accepted, the student will be eligible for a BSP fellowship, which will partially support the interdisciplinary work carried out in the home department. The training committee may adapt the Ph.D requirements of the home department to better serve the needs of a student engaged in interdisciplinary research.

The second track, or direct BSP track, makes it possible for a student who wants to earn a Ph.D. in Brain Science to apply directly to the BSP. Such an application will be considered only if the student convincingly argues that his/her background and interests are such that none of the core departments mentioned above would provide a suitable home. A student who was originally accepted in the first track may also elect to apply to the direct track after his/her first or second year of studies. The direct BSP track is designed to ensure that the student will acquire a set of complementary skills necessary to pursue interdisciplinary studies of the brain. Course work as well as research are therefore required to straddle in a significant way the two major components of the BSP: life sciences (cognitive science/neuroscience/psychology) and physical sciences (applied mathematics/computer science/engineering/physics); this is referred to below as complementarity. The specific requirements for the direct BSP track are as follows.

Core Courses. Eight course courses, approved by the BSP Training Committee, are required. These include:
1. A set of first- and second-year graduate courses that introduce cognitive science, neuroscience and mathematical/computational tools, without assuming an extensive background;
2. Courses in cellular, molecular, and systems neuroscience;
3. One laboratory course in neuroscience or cognitive and linguistic sciences;
4. One advanced course in the Physical Sciences.

Interdisciplinary Courses. Each year, BSP faculty and postdoctoral fellows teach interdisciplinary seminars that traverse departmental boundaries. At least one interdisciplinary seminar course is required in addition to the eight core courses.

Comprehensive Examination: Students must demonstrate competency in one of the participating fields (applied mathematics, neuroscience, cognitive and linguistic sciences, computer science, or physics) by passing, before the end of the second year of the program, a comprehensive examination. Additionally, they must demonstrate secondary competency in another of these areas, as specified by the BSP training committee, either through course work or by a qualifying examination. The primary area may be in either life sciences or the physical sciences; the secondary area must be in the complementary field.

Doctoral Thesis: All students are required to carry out interdisciplinary research in the brain sciences. Students are strongly encouraged to rotate through different laboratories to gain breadth of research experience. Each student has an individual Training Committee, which helps him/her select the rotations. A formal Research Supervisor and a Thesis Committee must be identified before the end of the second year of the program. The
composition of the Thesis Committee must satisfy the principle of complementarity (see above). The student is required to present a written dissertation proposal to his/her Thesis Committee before the end of the sixth semester. Before the end of six years, the student will present a written thesis to the Thesis Committee and the program directors, and the thesis will be defended after giving a public lecture on the research. The examiners will include the Thesis and Training Committee members and at least one expert from outside the university.

Teaching: It is the responsibility of the student’s faculty advisor or thesis advisor to arrange for a minimum of two semesters of teaching experience in one or more of the departments that compose the program.

Requirement for the Master of Science

For an Sc.M. degree, students must complete eight courses, satisfying the principle of complementarity, as agreed upon by the Training Committee. A written thesis with an interdisciplinary topic in brain science must be completed and meet the approval of the Training Committee.

Brown Technology Partnerships

Brown Technology Partnerships (BTP), under the direction of the Vice President for Research, acts as Brown’s vehicle for technology transfer. BTP focuses on actively communicating with faculty about technology transfer opportunities and policies and provides service to faculty to help with potential commercialization. The office works to forge alliances with the corporate, venture, public, and government communities needed for successful commercialization. BTP connects its efforts to relationship-building activities in the University, such as Advancement, Public Affairs and Government Relations and explores with our affiliated hospitals the potential for significant collaborations in technology transfer and related activities, both to effectively develop and to avoid duplication of our effort and costs. Brown Technology Partnerships also helps implement the University’s policies on intellectual property.

Brown Technology Partnerships is available to assist any organization wishing to undertake cooperative research programs or to license existing technology. Organizations may contact BTP directly at (401) 863-2780.

For additional information please visit http://www.research.brown.edu/btp/.

Chemistry

Professors Baird, Cane, Diebold, Doll, Risen, Steim, Sweigart, Stratt, Weber (Chair), Williard, Zimmt; Associate Professors Basu, Lusk, Rose-Petruck, Seto, Suggs, Sun; Assistant Professors Bazemore-Walker, Moulton, Sello, Trenkle; Lecturers Hess, Russo-Rodriguez.

Undergraduate Programs

For a complete description of the following standard concentration programs leading to the bachelor’s degree, please visit:
The graduate program in chemistry is intended for students of exceptional ability and interest who wish to study for the degree of Ph.D. Admission to graduate study is usually limited to candidates for the doctor’s degree, although the department also offers the degrees of A.M. and Sc.M. The doctoral thesis, based on original research, may be written in the field of biochemistry, inorganic, organic, or physical chemistry, or combinations of these fields. The research program is the most important, as well as the most stimulating, part of graduate study and is initiated in the first year. Formal instruction stresses fundamental principles and developments; it may include courses in mathematics, physics, and biology, as dictated by the student’s interests and preparation. In addition, regular and informal seminars are conducted by the students and the faculty in which research and other topics of current interest are discussed. Departmental colloquia are held throughout the year for outstanding chemists from universities and industry to present and discuss their work.

The chemical laboratories in the research building provide generous laboratory space for each student. Among other facilities, they house an excellent machine shop staffed with skilled instrument makers, a glassworking shop, and an electronics shop supervised by an expert electronics technician. The laboratories are well equipped with modern instruments which are supervised by specialists in chemical instrumentation. The facilities of the Center for Advanced Materials Research are also available to research workers in the Department of Chemistry.

Admission to graduate study in chemistry is normally accompanied by the award of a teaching assistantship. In addition to their research and other studies, assistants typically devote two afternoons per week to the supervision of undergraduate laboratories and also participate in other aspects of undergraduate evaluation and instruction. Research fellowships are seldom awarded for the first year, but are available for the later work of qualified doctoral candidates. These fellowships provide for full-time research and study. Summer research fellowships or other forms of support are provided to graduate students in good standing.

Research in experimental physical and inorganic chemistry is conducted in a number of fields. These include (1) quantum mechanical interference phenomena; (2) production of sound waves through the absorption of light; (3) chemical reaction dynamics of isolated molecules probed by picosecond time resolved photoelectron spectroscopy and femtosecond time resolved electron diffraction; (4) dynamics of photo-induced charge transfer reactions; (5) picosecond optically detected photoacoustic calorimetry; (6) structure and conformational changes in organic and bioorganic polymers; (7) synthesis of inorganic glasses for use in fiber optic communication systems; (8) Raman and infrared spectroscopic study of thin films of charge-transfer complexes for use in optical switching; (9) bioorganic polymers; (10) bioinorganic polymers; (11) electron spin resonance spectroscopy and electrochemistry of inorganic systems; (12) deuterium isotope effects in inorganic materials; (13) catalysis in supercritical media; (14) design of metalloenzyme models; (15) C-H bond and small molecule activation; (16) development of redox switches for activation of remote centers; (17) synthesis and reactions of multimetallic molecules;
The department’s research also includes a considerable emphasis on theoretical physical chemistry. There is research ongoing concerning both the equilibrium and dynamical aspects of molecular behavior in condensed phases (such as on solid surfaces and in liquids) and in clusters. There is also a continuing effort at developing new computational and analytical approaches to handling the problems faced by modern theoretical chemistry.

Research in organic chemistry includes fundamental and applied studies of mechanisms and stereochemistry of organic reactions and on the synthesis, reactions, and bioorganic role of several classes of compounds. Areas of particular emphasis include (1) synthesis of natural products; (2) biosynthesis of natural products; (3) synthetic methods; (4) organometallic reactions; (5) biochemical reaction mechanisms; and (6) photoinduced electron transfer and photochemistry.

Research in biochemistry emphasizes the mechanism of enzyme reactions, studies of the relationship between DNA sequence and conformation, and the structure and function of biological molecule, membranes and cells. Current research includes (1) investigations of secondary metabolic processes at the enzyme level and the study of terpenoid cyclases; (2) the preparation and analysis of oligonucleotides of defined sequence and determination of their conformational and biochemical properties; (3) the development of methods to insert non-natural amino acids into proteins, (4) in vivo and in vitro NMR of biological tissues, organs and organisms.

Requirements for the A.M. degree. The general course requirements of the Graduate School must be met.

Requirements for the Sc.M. degree. The general requirements of the Graduate School must be met. A master’s thesis is required.

Requirements for the Ph.D. The general requirements of the Graduate School must be met. Candidates must pass the cumulative examinations, present a research proposal, write a dissertation and present it in proper form to the Graduate School, and defend the dissertation. One year of teaching experience is required for the Ph.D. degree. Research under the supervision of a faculty member is also required. The exact nature of the required research program will be worked out with the student’s faculty advisor.

More information can be found at the Department website: http://www.chem.brown.edu.

The Potter Prize in Chemistry
A fund was established in 1942 under the will of William R. Potter. The income is awarded annually to the graduate student in chemistry who submits a doctoral thesis of outstanding merit.

William T. King Prize
In 1983 an award was established in the name of William T. King as a memorial to him. The prize is for outstanding teaching by a graduate chemistry student. Awards for two semesters of excellent teaching are presented to two outstanding graduate students annually.
Courses of Instruction

Primarily for Undergraduates

8. (0080) First Year Seminars
   
   Energy
   An introductory study of the scientific foundation of energy. Fundamental physical, chemical, and thermodynamic aspects, common (fossil, nuclear) as well as novel (fuel cells, solar, wind, etc.) energy sources. Focus on scientific principles, but includes resources and reserves, environmental impact, current usage and future needs. For students of all disciplines who are interested in obtaining an understanding of scientific principles of energy. No prerequisites. Enrollment limited. Written permission required.

10. (0100) Introductory Chemistry
    Stoichiometry, atomic and molecular structure, chemical bonding, solutions, chemical reactions, and descriptive chemistry of the elements. Prerequisite: MA 9. S/NC.

12. (0120) Chemistry of the Environment (Environmental Studies 10)
An introductory chemical examination of important environmental problems such as energy needs and fuel consumption, acid rain, the greenhouse effect, and ozone depletion. For each topic the underlying chemistry is explored and related to fundamental principles of chemical reactions, equilibrium, and molecular structure. Intended for nonscience majors; it does not satisfy medical school admission requirements or chemistry concentration requirements. Three hours of lecture. Written permission required.

(University Courses 14)
Interested students should register for University Courses 14.

19. (0190) Chemical Ecology: Pheromones, Poisons, and Chemical Messages
Plants and animals use chemicals to send and receive information about mating, identify potential hosts, defend themselves against enemies and pathogens and establish social networks. We will focus on the chemistry and biochemistry of these signals, with some examples of the behavioral and ecological consequences of chemical signaling. Enrollment limited. Written permission required.

33. (0330) Equilibrium, Rate, and Structure
Electronic structure of atoms and molecules, thermodynamics, solution equilibrium, electrochemistry, chemical kinetics, and reaction mechanisms. Three hours of lecture and five hours of prelaboratory and laboratory.

35. (0350) Organic Chemistry
Sequel to CH 33. 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: CH 33.

36. (0360) Organic Chemistry
Sequel to CH 35. Constitution and properties of organic compounds at a fundamental level. Introduction to physical organic, bioorganic, and synthetic organic chemistry. Laboratory work 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: CH 35.

40. (0400) Biophysical and Bioinorganic Chemistry
Aspects of physical and inorganic chemistry relevant to biochemistry: thermodynamics of hydrophobic and hydrophilic interactions, electrically charged membranes, coordination chemistry, active and passive transport, enzyme kinetics and mechanisms, metal-based drugs, and physical methods. Three hours of lecture and five hours of laboratory. Prerequisite: CH 36 and MA 10 or 17. Prerequisite or corequisite: PH 4 or 6.

50. (0500) Inorganic Chemistry
The chemistry of main group and transition metal elements with treatment of covalent bonding and molecular structure. Methods of studying inorganic compounds and reactions. Three hours of lecture and five hours of prelaboratory and laboratory attendance. Prerequisite: CH 36.

97, 98. (0970, 0980) Undergraduate Research
Prerequisite: permission of the staff. Permission should be requested before the end of the preceding semester.

For Undergraduates and Graduates

106. (1060) Advanced Inorganic Chemistry
Treatment of the chemistry of transition metal and main group elements with emphasis on the chemical and physical properties of their compounds both as independent molecules and solid materials. Prerequisite: CH 50.

114. (1140) Physical Chemistry: Quantum Chemistry
An introduction to the quantum theory of chemical systems. Elements of nonrelativistic quantum mechanics; electronic structure of atoms and molecules; study of molecular structure by spectroscopic and other techniques; chemical bonding. Fifth semester course for concentrators in chemistry. Three hours of lecture. Prerequisites: CH 33, MA 18 or equivalent, PH 4 or 6. Recommended but not required: MA 52 or equivalent.

115. (1150) Physical Chemistry: Thermodynamics and Statistical Mechanics
An introduction to the equilibrium behavior of physicochemical systems from the macroscopic and microscopic points of view. Elements of statistical mechanics; derivation of the laws of thermodynamics and selected applications. Recommended sixth semester course for chemistry concentrators. Three hours of lecture. Prerequisite: CH 114 or written permission.

116. (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: CH 114 or permission of the instructor.

117. (1170) Environmental Chemistry (Environmental Studies 117)
A laboratory course using analytical methods to help in the study and description of several realistic environmental problems. Illustrates scientific methodology and measurement techniques as they apply to these important problems. A problem-solving course employing a kind of environmental chemical detective work. Two laboratory sessions per week. Prerequisites: CH 33 and MA 10 or the equivalent, or permission of the instructor. Enrollment limited. Written permission required.
123. (1230) Chemical Biology
An examination of current topics at the interface of organic chemistry and biology. Readings from the current research literature. Necessary background material is covered with review articles. Topics include catalytic antibodies, ligand-receptor interactions, molecular recognition, and synthetic DNA nuclei. Prerequisites: CH 36 and BI 28. Enrollment limited. Written permission required.

124. (1240) Biochemistry
A close examination of several aspects of biochemistry emphasizing the relationship between chemical structure and biological function. Topics are chosen from the following: protein structure, enzyme mechanisms, regulation, biosynthesis, and membranes. Prerequisite: BI 28 or 127. Enrollment limited. Written permission required.

145. (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: CH 36.

156. (1560) Topics in Advanced Chemistry
Lecture units on various topics of interest in chemistry. Topics will be announced. One course credit may be earned by successful completion of two lecture units in one semester or over two semesters. Evaluation is based primarily on literature research papers in the areas of the units completed. May be repeated once for credit. Written permission required.

(1560D) Chemistry and Biology of Naturally Occurring Antibiotics
Organic Structure Analysis
Structure Analysis in Chemistry and Biology
(1560C) Techniques in Inorganic Chemistry

162. (1620) Chemical Physics
Topics in the chemical physics of molecules and solids, including structure, bonding, and radiative transitions. Prerequisites: CH 114 or equivalent and written permission. Written permission required.

(1620A) Photoacoustics
(1620B) Spectroscopy

170. (1700) Nanoscale Materials: Synthesis and Applications
An introduction to the chemical principles in the synthesis and self–assembly and physical properties in nano–optics, nano–electronics, nano–magnetism and nano–catalysis of nano–particles, nano–rods, nano–tubular, nano–wires and porous nano–structures. It will further illustrate how these nano–materials and their assemblies can be used in information storage, catalysis and biomedicine.

Primarily for Graduates

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 traditions, thermal radiation, gas expansions.
Introduction to the equilibrium statistical mechanics of noninteracting systems. The classical and quantum mechanical 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 reaction equilibria and the transition-state theory of chemical reaction rates.

221. (2210) Chemical Crystallography  
Introduces the principles of crystallography (plane groups, point groups, space groups, Bravais lattice, crystal classes), crystallographic methods (single-crystal, powder XRD, macromolecular), strategies for data collection, methods for data reduction, and structure interpretation; reviews modern crystal structure databases (CSD, ICSD) and search engines; reviews the historical development of crystallography and the scope, potential and application of X-ray analysis.

231. (2310) Advanced Inorganic Chemistry  
Comprehensive survey of topics in synthetic and mechanistic inorganic chemistry.

232. (2320) Physical Inorganic Chemistry  
The bonding and structures of inorganic compounds, including transition metal containing compounds and organometallics, and their spectroscopic properties are covered along with the group theoretical, quantum chemical, and physical methods employed. Prerequisites: CH 50 and 114 or equivalents or written permission. Recommended for seniors and first-year graduate students.

241. (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.

242. (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.

243. (2430) Synthetic Organic Chemistry  
Methods, strategies, and mechanisms. Topics may include the chemistry of anions, cations, and radicals, concerted reactions, conformational analysis, and stereochemistry.

277, 278. (2770, 2780) Quantum Mechanics  
Semester I: Time independent quantum mechanics and its application to atomic and molecular problems. Discussions of modern theories of electronic structure, chemical bonding, and molecular spectroscopy. Prerequisite: CH 114 or equivalent.

281, 282. (2810, 2820) Departmental Seminars  
No course credit. THE STAFF.

287, 288. (2870, 2880) Departmental Colloquia  
No course credit. THE STAFF.

289. (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. No course credit.

297, 298. (2980) Research
299. (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. No course credit.

Classics

Professors Alcock, Bodel, Boedecker (Chair), Boegehold (Emeritus), Cherry, Donovan (Emeritus), Fornara, Gill, Holloway, Konstan, Putnam, Raaflaub, Sacks, Wyatt (Emeritus); Associate Professors DeBrohun, Nuenlist, Pucci, Scarsiuro, Slotsky (Visiting); Assistant Professor Papaioannou; Senior Lecturer Scharf; Lecturers Amanatidou, Nieto Hernandez.

The department provides both specialized training for those who wish to enter graduate school in preparation for a career in scholarship, and a broad liberal education for those with more general interests. Courses are offered in the principal fields of Greek, Latin, and Sanskrit language and literature, including elementary courses in all three languages, and also in Modern Greek, ancient history, ancient philosophy, and religion.

The Department of Classics offers graduate work in Greek and Latin literature, Greek and Latin linguistics, Greek and Roman history, philosophy, and Classics and Sanskrit, all leading to the degrees of A.M. and Ph.D. The work of the department is carried on in formal courses, seminars, and guided research, with considerable flexibility in the case of students’ special interests and programs. An overall command of Greek and Latin language, literature, and history is stressed. Students are encouraged, especially at the beginning of advanced work, to select their courses from a reasonably wide area of interest, and to take account of appropriate study in related departments, such as the Center for Old World Archaeology and Art, Comparative Literature, Egyptology, History, History of Mathematics, Philosophy, Political Science, and Religious Studies.

Undergraduate Program

For a complete description of the standard concentration program leading to the A.B. degree, please visit the department website at:

http://www.brown.edu/Departments/Classics/
or
http://www.brown.edu/Administration/Registrar/concentration.html

Graduate Programs

Master of Arts. For admission to candidacy students must present satisfactory evidence of completion of a substantial number of courses in Greek and Latin in their undergraduate program. The graduate program will consist of a minimum of eight courses including at least two seminars in Greek or Latin or Classics, and completion of a thesis which shall be an original investigation of some literary, historical, archaeological or linguistic topic. Competence must be demonstrated in French or German.

Doctor of Philosophy. In the course of residence, the student must acquire a minimum of 14 graduate course credits in Classics, including at least 4 graduate seminars with departmental faculty. Before the preliminary examination, which is requisite to commencement of a doctoral dissertation, the following requirements must be met:

1. A demonstration of competence in German and French (Italian may be substituted for French), established by examination or an honor grade in French or German 40. Candidates should be competent in at least one foreign language upon
entering the degree program, and in no case later than by the end of the first year of graduate study.

2. Latin Prose Composition (by examination or successful completion of Latin 115).

3. Greek Prose Composition (by examination or successful completion of Greek 115).

4. Archaeology (by examination or successful completion of an advanced course in classical archaeology, or by participation in the summer or regular program of the American School of Classical Studies at Athens or in the summer program in Italian archaeology at the American Academy in Rome, or by work at other institutions).

5. History (by examination or successful completion of Classics 121–2, or 131–2).


7. Sight Translation in Greek. Examinations given twice yearly.

8. Teaching practicum: it is an integral part of the graduate training and the professional preparation in Classics to gain teaching experience. Two semesters of teaching are required of all graduate students. This requirement will be satisfied by any form of teaching acceptable to the department, such as tutoring of individual undergraduates or groups of students, co-teaching a course (or parts of a course) with a faculty member, serving as a teaching assistant, teaching a departmental course, teaching a course in Brown’s (or another institution’s) summer school, teaching a course at another university or college, or participating in any other instructional program of the department.

The preliminary examination will consist of two written examinations, viz. (1) a Greek or Latin author, and (2) a second author or topic to be approved in advance by the graduate advisor (this topic or author should be Greek if a Latin author is chosen under No. 1, and vice versa), and an oral examination in the history of Greek and Roman literature. The student is expected to have read in the original language the materials on the departmental reading list and to be familiar with the history of Greek and Roman literature as it is contained in the standard works on the subject. After completion of all of the prerequisites and the preliminary examination, and after research into a dissertation topic has begun, and within six months following successful completion of the oral examination, the candidate shall present *viva voce* the dissertation topic for discussion and evaluation to a committee usually consisting of the two main examiners and the chairperson of the oral examination. The dissertation shall be a substantial and original investigation of some literary, historical, philosophical, linguistic or archaeological topic. A formal defense of the thesis will be required.

*Doctor of Philosophy in Classics and Sanskrit.* The requirements for the degree of Ph.D. in Classics and Sanskrit will be identical with those for that degree in the Classics with the following differences:

1. The student must complete satisfactorily (or give evidence of having completed satisfactorily equivalent courses elsewhere) four advanced courses in Sanskrit.

2. The student must complete a minimum of five seminars, two of which shall be in Sanskrit.

3. In the preliminary examination, the second part shall be on an author or topic in Sanskrit to be approved in advance by the graduate advisor.

4. The dissertation topic shall be one that requires the significant use of material in Sanskrit as well as in Greek and/or Latin.
Related Activities. Graduate facilities at Brown are particularly rich in the fields of Greek and Latin literature, philosophy, history, epigraphy, and archaeology. Students may take related courses offered in Art, Comparative Literature, Egyptology, History, the History of Mathematics, Judaic Studies, Linguistics, Philosophy, and Religious Studies.

Brown University is a supporting institution of both the American School of Classical Studies at Athens and the American Academy in Rome (see page 576). Periods of study at one of these institutions are regularly undertaken by graduate students in the department.

See also Joukowsky Institute for Archaeology and the Ancient World (see page 191).

Courses of Instruction

Classics

Primarily for Undergraduates

1. (0010) The Greeks
   For centuries Western civilizations have seen the Greeks as their intellectual and spiritual ancestors. The 'Greek miracle' is explored by reviewing its major achievements and discoveries: poetry (heroic epic, tragedy, political comedy), philosophy, historical research, political analysis and institutions, science. All texts read in English.

2. (0020) The Romans
   The development of literary culture at Rome, from the beginnings to the end of the Empire, with an emphasis on the major genres, authors, and works of Roman literature. Intended for all students, regardless of year or background, who desire an introduction to the major facts of Roman literary culture. All texts are read in English.

3. Foundations of Western Art in Antiquity (Archaeology and the Ancient World 3, History of Art and Architecture 3)
   Interested students should register for Archaeology and the Ancient World 3.

5. Archaeological Field Work (Archaeology and the Ancient World 5, Anthropology 52)
   Interested students should register for Archaeology and the Ancient World 5.

15. (0150) Ancient Philosophy (Philosophy 15)
   Ancient Greek views about the prospects and limits of reason in the human being’s search for a good and valuable life. What the best life is; how, and how far, reason can provide for its realization; what social/political conditions it requires; how vulnerable it is (and should be) to uncontrolled happenings. Authors include Euripides, Thucydides, Plato, Aristotle, Epicurus, Lucretius, Augustine, and Dante.

20. Introduction to Akkadian (History of Mathematics 20, University Courses 20)
   Interested students should register for History of Mathematics 20.

21. (0210) Topics in Classical Literature and Civilization
   May be repeated for credit.

28. (0280) Latin in English/Latinate English
   The influence of Latin not only on the English vocabulary but on English style. Topics include: word building from Latin (and some Greek), Latin words and phrases in English, English lexicography, translations into and from Latin, euphuism, the revolt against Latin
elements (Saxonism). Students write essays exemplifying these types of writing. W. F. WYATT.

40. (0400) Ancient Comedy and its Influence (Comparative Literature 51)
Examines several forms of ancient Greek and Roman comedy (Aristophanes, Menander, Plautus, Terence, Herodas), popular comedy in the Renaissance (Machiavelli, Shakespeare, Jonson, Molière), and more recent varieties of comic drama (Shaw, Wilde, Ionesco, TV situation comedies). Focuses on the social, ethical, and psychological aspects of comedy and on the continuities and differences in this popular form. D. KONSTAN.

42. (0420) Ancient Novel and Its Influence (Comparative Literature 71)
Examines the development of the ancient Greek and Roman novel, and traces its influence on Mediaeval and Renaissance fiction, Richardson’s Pamela, and the Gothic novel, concluding with Harlequin romances. Discussion will focus on the representation of love and its relation to social life, as well as on the evolution of narrative technique. D. KONSTAN.

50. (0500) Virgil, Augustus, and Rome
Examines, in translation, the three masterpieces of Virgil, central poet of the golden age of Latin literature. In particular, considers his epic, the Aeneid, against the background of the Rome of the emperor Augustus. Subjects for discussion include the relation of poetry and power, the connection between the imagination and historical reality, and the tension between intellectual freedom and the constraints of society. M. C. PUTNAM.

52. (0520) Religion and Magic in Ancient Greece (Religious Studies 88)
Examines the sacred or supernatural realm that pervaded ancient Greek culture, considering both public and private practices. Topics include belief in the gods; aspects of polytheism; sacrifice; pollution; athletic and civic festivals; oracles; mystery cults; death and afterlife; hero cults; religion and gender; curses, spells, and charms; ancient atheism and agnosticism. D. BOEDEKER.

53. Art, Archeology and Civic Life from the End of the Republic through the Early Empire, 40 BC-AD 140
(Archaeology and the Ancient World 54)
Interested students should register for Archaeology and the Ancient World 54.

55. Mediterranean Bronze Age†
(Archaeology and the Ancient World 41)
Interested students should register for Archaeology and the Ancient World 41.

56. (0560) War and Society in the Ancient World (Ancient Studies 99)
In a broad survey of ancient societies (from Egypt and Mesopotamia to late antiquity), but with a strong focus on the Greco-Roman world, this course examines the sociology of war in premodern societies: we investigate how in each case warfare and military organization interacted with social, economic, and political structures and how each society dealt with the challenges, gains, and costs of war. Readings in English. K. A. RAAFLAUB.

58. Introduction to Greek Architecture†

60. (0600) The Worlds of Late Antiquity
A survey of Western culture in all its variety — social, political, economic, literary — in those centuries when the Roman Empire supposedly fell, leaving in its wake the so-called Dark Ages. Emphasizes the dialectic of continuity and change that leads from Imperial Rome to the vast Empire of Charlemagne. J. PUCCI.
62. (0620) Greek Tragedy
An investigation of many of the surviving plays of the Greek tragedians Aeschylus, Sophocles, and Euripides. Considers the diverse aspects of ancient drama: the context, both religious and sociopolitical; issues of theatrical production, the poetic texture of the plays; and the influence of classical drama on later drama and western thought. Additional readings may include Aristophanes’ Frogs and Thesmophoriazusae and selections from Aristotle’s Poetics, the earliest criticism of Greek tragedy. J. B. DEBROHUN.

66. (0660) The World of Byzantium
Explores the literary, artistic, and musical culture of Byzantium in its sociopolitical context, 4th-15th century CE. Topics include: between antiquity and modernity; a multi-culture; Byzantium through Western eyes; performance in court and church; life at home and school; insiders and outsiders; practices of gender; Holy men; friends, lovers, letters; Iconoclasm, Byzantine aesthetics; autobiography and fiction; after Byzantium in Eastern Mediterranean. E. PAPAIOANNOU.

70. (0700) Individual and Community: Early Greek Political Thought (History 96)
Traces the development of political reflection from its first attestation in the 8th century B.C.E. to its blossoming in 5th-century Athenian democracy. Focusing on literary masterpieces (in translation: Homer, Hesiod, Aeschylus, Euripides, Thucydides) and fragments of lyric poets, pre-Socratic philosophers, and Sophists, we discuss the evolving conflict between communal values and individual aspirations, and the discovery of concepts such as justice, equality, liberty, civic responsibility, and democracy. K. A. RAAFLAUB.

76. (0760) Ancient Utopias/Imaginary Places
Explores the ancient Greco-Roman utopian tradition in its two branches: literary depictions of mythological or fantastic utopian visions, including representations of societies remote in time (“Golden Age”) or place (Homer’s Phaeacia); and literature that criticizes contemporary society or describes an idealized “possible” society (Plato’s Republic; Aristophanes’ Ekklesiazusae). Also considers the postclassical utopian (and dystopian) traditions. J. B. DEBROHUN.

77. Food and Drink in Classical Antiquity
( Archaeology and the Ancient World 77, Ancient Studies 112)
Interested students should register for Archaeology and the Ancient World 77.

81. How Not to Be a Hero (Comparative Literature 81)
Interested students should register for the appropriate section of Comparative Literature 81.

90. (0900) Greek Mythology (Comparative Literature 81)
Reviews major myths along with some lesser known variations, in order to understand how ancient Greeks imagined their relation to the divine world, to nature, and to other human beings. Considers connections between myth and cult or ritual, and also to the psychological, social, historical, and aesthetic aspects of classical myths. Examines adaptations of classical myths in later societies and comparative materials from other cultures. D. KONSTAN.

99. (0990) Concepts of the Self in Classical Indian Literature (Religious Studies 88)
Examination of the great Indian epic Mahabharata and related mythology to introduce the context for the most ancient speculations of the Rgveda and the subtle teacher-student dialogues about the self contained in the Bhagavadgita and Upanishads. We will also examine the more systematic Indian philosophical texts and note their resonance in ancient and modern European conceptions of self. P. M. SCHARF.
260 / Divisions, Departments, Centers, Programs, and Institutes

For Undergraduates and Graduates

100. *The Shaping of the Classical World: Greeks, Jews, Romans* (History 100)
Interested students should register for the appropriate section of History 100.

112. (1120) *Comparative Themes and Topics*

117. *Archaeology of Mesopotamia*†
(Archaeology and the Ancient World 37)
Interested students should register for Archaeology and the Ancient World 37.

119. *Archaeology of Palestine*
(Archaeology and the Ancient World 39, Anthropology 49)
Interested students should register for Archaeology and the Ancient World 39.

121, 122. (1210, 1220) *The History of Greece from Archaic Times to the Death of Alexander* (History 100)
A detailed examination of the history of the Greeks—political, economic, and social—from Homer’s time to the establishment of the Hellenistic monarchies by the successors of Alexander the Great. The ancient sources are closely and critically studied (in translation).

125. *Aristotle* (Philosophy 125)
Interested students should register for Philosophy 125.

131. (1310) *Roman History I: The Rise and Fall of an Imperial Republic* (History 101)
The social and political history of Rome from its origins to 14 CE. Focuses on social conflicts of the early Republic; the conquest of the Mediterranean and its repercussions; the breakdown of the Republic and the establishment of monarchy. Special attention given to the role of women and slaves, and to law and historiography. Readings emphasize ancient sources in translation.

132. (1320) *Roman History II: The Roman Empire and Its Impact* (History 101)
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.

140. (1400) *Love, Sexuality and Friendship*
Could lovers be friends in ancient Greece and Rome, or were the two categories mutually exclusive? How did pederastic relations, based on a difference in age and role, enter into the construction of erotic identities in the classical world? Through a reading of primary texts in translation, as well as pertinent studies of gender and the emotions, we investigate the nature of affectionate relations in antiquity. Enrollment limited. Written permission required.

141. (1410) *Roman Religion* (Religious Studies 141)
Explores the religions of Rome, from the animism of king Numa to the triumph of Christianity. Topics include: concepts of religion and the sacred; sacred law; ritual space and the function of ritual; festivals; divination; magistrates and priests; the imperial cult; death and the afterlife; mystery cults; astrology and magic.

155. *Who Owns the Classical Past?*
(Archaeology and the Ancient World 155, Ancient Studies 112)
Interested students should register for Archaeology and the Ancient World 155.
175. (1750) Undergraduate Seminar
Enrollment limited. Written permission required.

177. (1770) Ancient Law, Society and Jurisprudence (Ancient Studies 101)
First, a brief survey of ancient (e.g., Mesopotamia, Israel) and modern legal systems (USA, to common and civil law systems). Major focus: Athenian and Roman law. Topics: sources of law, its evolution, (e.g., feuding societies); procedural law (e.g., how to bring cases); legal reasoning; rhetoric; substantive law (e.g., regarding marriage, religion, homicide). Different approaches are used: historical, comparativist, anthropological, case-law study. A. C. SCAFURO.

190. Alexander the Great and the Alexander Tradition
(Archaeology and the Ancient World 190)
Interested students should register for Archaeology and the Ancient World 190.

191. (1970) Special Topics

193. (1930) Special Topics
The Portrait (History of Art and Architecture 120, Archaeology and the Ancient World 120)
Interested students should register for History of Art and Architecture 120.

Roman Iberia (Archaeology and the Ancient World 120, History of Art and Architecture 120)
Interested students should register for Archaeology and the Ancient World 120.

Special Topics: Introduction to Greek and Latin Meters
We will survey the major metrical systems of Greek and Roman verse by reading a wide range of poems, mainly Greek, though we will conclude with Virgil and Horace. The main concerns will be, first, how to scan poems correctly, and second, how to evaluate metrical and rhythmic choices within poems. K. HAYNES.

199. (1990) Conference: Especially for Honors Students
Primarily for Graduates

Introduction to standard research methods and tools in major subdisciplines of classical philology and ancient history. Required of entering graduate students. Survey of various subdisciplines in order to become familiar with field and scholarly principles. S/NC. R. NUEHLST.

201. Crafts and Technology
(Archaeology and the Ancient World 201)
Interested students should register for the appropriate section of Archaeology and the Ancient World 201.

202. Research Seminar in Greek Art and Architecture

207. (2070) Graduate Seminar

208. (2080) Graduate Seminar

211. (2110) Graduate Seminar
Late Plato (Philosophy 215)
Interested students should register for Philosophy 215.
235. Seminar: Roman Historical Reliefs
(History of Art and Architecture 235)
Interested students should register for the appropriate section of History of Art and
Architecture 235.

289. (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. No course
credit. THE STAFF.

291, 292. (2980) Reading and Research
299. (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. No course credit. THE STAFF.

Greek
Primarily for Undergraduates

10. (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.

11. (0110) Introduction to Ancient Greek
Intensive, one-semester introduction to Greek. No previous knowledge of Greek is
required. Double credit.

20. (0200) Essentials of the Greek Language
See Essentials of the Greek Language (GR0010) for course description.

30. (0300) Introduction to Greek Literature
An introduction to Greek literature through intensive reading. Prerequisite: GR 20, GR 11,
or the equivalent. We will work on grammar skills while reading extensively in the
Histories of Herodotus, who is not only the “father of history” but also a great (and
delightful) artist in prose.

31. (0310) Grammar Review and Composition
Half credit.

40. (0400) Introduction to Greek Literature
Prerequisite: GR 30 (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.

For Undergraduates and Graduates

105. (1050) Greek Drama
108. (1080) Attic Orators
C. W. FORNARA.

110. (1100) Advanced Homer: The Odyssey
C. W. FORNARA.

111. (1110) Selections from Greek Authors
114. (1140) Introduction to Greek Linguistics
This course examines the changes that took place in Greek from the time of its separation from its parent language (Proto-Indo-European) to the dialects of Classical times (5th-4th c.B.C.). This course is also an introduction to the methodology of historical linguistics, concentrating on phonology. Proficiency in ancient Greek is required. P. NIETO HERNANDEZ.

115. (1150) Greek Prose Composition
P. NIETO HERNANDEZ.

181. (1810) Early Greek Literature
Surveys early Greek literature. Works studied include the Iliad, Odyssey, the Hesiodic poems, and archaic lyric and elegiac poetry. Emphasis on literary interpretation, the interpretive problems inherent in the study of archaic poetry, and the poetics of oral poetry. Extensive readings in the original. C. W. FORNARA.

182. (1820) Literature of the Fifth Century

191. (1910) Special Topics

193. (1930) Special Topics: Greek Literature and Civilization†

199. (1990) Conference: Especially for Honors Students

Primarily for Graduates

200. (2000) Graduate Seminar

202. (2020) Graduate Seminar†

207. (2050) Graduate Seminar

210. (2100) Graduate Seminar

211. (2110) Graduate Seminar

212. (2120) Graduate Seminar

(2120A) Graduate Seminar: Greek Autobiography: From Plato to the Middle Ages
An exploration of autobiographical narratives written in Greek from classical to Byzantine times, focusing on the relation between changing notions of the self and the development of autobiography as a literary genre. Authors examined: Plato, Demosthenes, Nicolaus of Damascus, Marcus Aurelius, Aelius Aristides, Lucian, Gregory of Nazianzus, Libanius, Synesius, Michael Psellos, Michael Attaleiates, and Anna Comnena. E. PAPAIOANNOU.

289. (2970) Preliminary Exam Preparation
No course credit. THE STAFF.

291, 292. (2980) Reading and Research

299. (2990) Thesis Preparation
No course credit. THE STAFF.
History of Mathematics

Primarily for Undergraduates

20. (0200) Introduction to Akkadian (Classics 20, University Courses 20)
Introduces the students to the elements of the cuneiform writing system, the grammar of the Akkadian language, and to samples from Babylonian epistolary and scientific literature. A. Slotsky.

21. (0210) Intermediate Akkadian
Builds on HM 20, Introduction to Akkadian. Emphasizes the reading and comprehension of several genres of Akkadian works. Students who have not taken HM 20, but who have a strong background in Semitic languages, should consult with the instructor regarding possible accommodation. A. Slotsky.

Primarily for Graduates

231. (2310) Ancient Scientific Texts
Readings and analysis of a major scientific text in Akkadian, Arabic, Greek, Latin, or Sanskrit. May be repeated with a different text. Written permission required for undergraduate and medical students.

232. (2320) Ancient Scientific Texts
See HM 231, Ancient Scientific Texts, for course description. Written permission required for undergraduate and medical students.

298. (2980) Reading and Research
299. (2990) Thesis Preparation
No course credit.

Latin

Primarily for Undergraduates

10. (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.

11. (0110) Introduction to Latin
Intensive, one-semester introduction to Latin. No previous knowledge of Latin is required. Double credit.

20. (0200) Essentials of the Latin Language
See Essentials of the Latin Language (LA0010) for course description.

30. (0300) Introduction to Latin Literature
An introduction to Latin literature through intensive reading of major authors in prose and poetry with careful attention to grammar and style. Prerequisite: LA 10, 20 or 11 (or equivalent).

31. (0310) Grammar Review and Composition
Half credit.

40. (0400) Introduction to Latin Literature
See Introduction to Latin Literature (LA0030) for course description.
51. (0510) Readings in Latin Literature
For those who wish to work at a slower pace or who cannot devote a full course to language study. The topics vary from year to year. Half credit.

For Undergraduates and Graduates

101. (1010) Latin Lyric: Catullus and Horace
J. B. DeBrohun.

102. (1020) Cicero
(1020A) De Oratore
C. W. Fornara.
Letters
C. W. Fornara.

104. (1040) Virgil
(1040B) Virgil: Aeneid
M. C. Putnam.
(1040A) Virgil: Eclogues and Georgics
M. C. Putnam.

106. (1060) Roman Historical Writing
(1060E) Livy
A. C. Scafuoro.
(1060C) Sallust and Livy
Two major Roman historians provide a basis for study of style, intent, veracity, and stature. K. A. Raaflaub.

111. (1110) Selections from Latin Authors

115. (1150) Latin Prose Composition
J. B. DeBrohun.

181. (1810) Survey of Republican Literature
M. C. Putnam.

182. (1820) Survey of Roman Literature from Horace to Suetonius
J. P. Bodel.

191. (1970) Special Topics

193. (1930) Advanced Readings in Latin Authors

199. (1990) Conference: Especially for Honors Students

Primarily for Graduates

201. (2010) Graduate Seminar

203. (2030) Seminar
(2030H) Graduate Seminar: Caesar, Bellum Civile (Classics 208)
K. A. Raaflaub.

208. (2080) Graduate Seminar

209. (2090) Graduate Seminar

212. (2120) Graduate Seminar
Modern Greek

Primarily for Undergraduates

10, 20. (0100, 0200) Introduction to Modern Greek
This course is designed for students with little or no prior knowledge of Modern Greek. The aim is to develop the students' ability to speak, understand, write and read Modern Greek, using a variety of themes ranging from talking about one’s self and getting by in a Greek speaking environment, to expressing ideas and opinions on various topics. E. AMANATIDOU.

30, 40. (0300, 0400) Intermediate Modern Greek
This course is a continuation of MG10 and MG20, but may also be taken by anyone with an adequate language and vocabulary awareness. The course focuses on further development of the four language skills and provides students with the opportunity to familiarize themselves with, and expand their knowledge of, aspects of Greek culture and society. E. AMANATIDOU.

50. (0500) Advanced Modern Greek
This course places emphasis on the improvement of oral/aural skills via presentations, debates and conversation based on readings of literary and journalistic prose. The relationship between Greek poetry and music will be explored through a survey of mainly post-war poetry that has been put to music. Writing activities will include creative writing, critical commentaries and translation from and into Greek. E. AMANATIDOU.

60. (0600) Advanced Modern Greek
Modern Greek 60 is an advanced level course for students who wish to improve their language skills, especially reading and writing. A central feature of the course will be reading and responding to material taken from literary texts and journalistic prose, dealing with contemporary issues such as Education, Employment, etc. E. AMANATIDOU.

For Undergraduates and Graduates

101. Interdisciplinary Modern Greek Studies

191. (1910) Special Topics in Modern Greek

Special Topics
E. AMANATIDOU.

Special Topics in Modern Greek
E. AMANATIDOU.
Sanskrit

Primarily for Undergraduates

10, 20. (0100, 0200) Elementary Sanskrit
After examining the relation of this ancient Indo-European language to our own language and studying its sounds, script, and phonological processes, the remainder of the first semester and half of the second surveys the intricate and highly organized structure of the grammar. The second semester closes with reading a selection from the Indian epic, *The Mahabharata*. P. M. Scharf.

30, 40. (0300, 0400) Intermediate Sanskrit
An introduction to the extensive body of Sanskrit literature through reading selections in prose and verse drawn principally from short story collections, epics, and philosophical and religious texts. P. M. Scharf.

For Undergraduates and Graduates

191. (1910) Advanced Sanskrit
In-depth study of major poetic, dramatic, epic, philosophical, religious, grammatical, medical, or astronomical texts. Topics depend on the interest of students. May be repeated for credit. P. M. Scharf.

199. (1990) Conference: Especially for Honors Students

Cognitive and Linguistic Sciences


The cognitive and linguistic sciences together form a new multidisciplinary field of study that investigates the nature of language and the faculties of the mind. Cognitive science seeks to answer such questions as: How do we perceive and categorize objects in the world? How is such information remembered and used to solve problems or control action? How are speech and language processed so as to communicate this information? Linguistics attempts to answer such questions as: What is the phonetic, syntactic, and semantic structure of language and how are these levels related? How does the communicative function of language interact with its structure? How do children learn language, and are linguistic properties biologically innate? In both areas, researchers create formal or computational models of cognition and language, and seek to understand their neural bases in the brain.

The Department of Cognitive and Linguistic Sciences was formed in 1986 when a group of linguists, cognitive psychologists, computer scientists, and biologists joined together to create a new interdisciplinary unit. The department now occupies three floors of the Metcalf Research Laboratory and contains state-of-the-art facilities for computing, on-line behavioral studies, speech analysis and synthesis, and computer graphics.

Graduate students are admitted to the department and then select the Ph.D. program in cognitive science or in linguistics at the end of the first year. Areas of specialization in cognitive science include visual perception and action; categorization, reasoning, and
problem-solving; speech and language processing; the neurological and biological bases of speech and language; and computational and neural modeling. Areas of specialization in linguistics include the syntax/semantics interface, neurolinguistics and psycholinguistics, language acquisition, speech production and perception, and computational models of language. Interdisciplinary work is encouraged; there are close relationships with the Departments of Computer Science, Neuroscience, Psychology, Applied Mathematics, Engineering, Anthropology, English, and Philosophy.

**Undergraduate Programs**

For a complete description of the following standard concentration programs leading to the bachelor’s degree, please visit: http://www.brown.edu/Administration/Registrar/concentration.html.

- Anthropology-Linguistics
- Cognitive Neuroscience
- Cognitive Science
- Linguistics

**Graduate Programs**

**Linguistics**

**Master of Arts**

The requirements for the degree of A.M. include:

1. At least one course in each of the following areas:
   a. syntax, semantics, and computational linguistics;
   b. phonetics and phonology;
   c. neurolinguistics, psycholinguistics, and language acquisition.
2. Reading knowledge of one foreign language (usually French, German, or Russian).
3. Thesis, or alternatively, successful completion of a major paper for the Ph.D.

Students are not accepted into the program to obtain a master’s degree only.

**Doctor of Philosophy**

Requirements for the Ph.D. include:

1. A total of ten substantive courses in linguistics and related disciplines, including at least auditing CG 200 (graduate proseminar). Also, all students not actively involved in thesis preparation are expected to attend the weekly departmental seminar (CG 233).
2. First-year research project and an oral presentation based on this project.
3. Four semesters of supervised teaching experience.
5. Familiarity in the following three areas, usually demonstrated by taking two courses in each area:
   a. syntax, semantics, and computational linguistics;
   b. phonetics and phonology;
   c. neurolinguistics, psycholinguistics, and language acquisition.
6. Reading knowledge of one foreign language.
7. A “major” paper, and oral presentation.
Students in the doctoral program may elect to take an A.M. degree en route to the doctorate, but the master’s degree is not a prerequisite for the Ph.D.

Cognitive Science

Master of Science

The requirements for the Sc.M. degree include:

1. The course requirements consisting of CG 200 (graduate proseminar), one methodology course, and an appropriate number of substantive topic area courses.

Students are not accepted into the program to obtain a master’s degree only.

Doctor of Philosophy

The academic requirements for the doctorate include:

1. A total of ten substantive courses including CG 200 (graduate proseminar), CG 220, CG 221, and CG 222. Also, all students not actively involved in thesis preparation are expected to attend the weekly departmental seminar (CG 233).
2. First-year research project and oral presentation based on this project.
3. Four semesters of supervised teaching experience.
5. Expertise in an area of specialization and competence in two others. Methodological expertise in at least two areas important to conducting research in cognitive science.
6. A preliminary examination consisting of a substantial theoretical or interpretive review of some area of Cognitive Science.

For additional information please see the department’s website at: http://www.cog.brown.edu/.

Courses of Instruction

Primarily for Undergraduates

1. (0010) Approaches to the Mind: Introduction to Cognitive Science
Cognitive science is the study of the mind from an interdisciplinary perspective. This course examines how complex systems carry out functions such as vision, memory, and language. The major themes common to the understanding of the cognitive science of vision, memory, and language are discussed, including nature and nurture, categories and representations, and computations. Intended primarily for freshmen and sophomores, or upper-class students with little background in cognitive science. S. E. BLUMSTEIN.

7. (0070) Language, Truth, and Advertising
Focuses on how meaning is conveyed in the language of advertising, a pervasive form of communication in our society. Considers definitions of truth in semantic theory and focuses on techniques for distinguishing between what is literally claimed and what is implied, presupposed, suggested, or focused. Gathers together insights from linguistics, philosophy and logic, cognitive psychology, and sociolinguistics. J. L. SEDIVY.
9. (0090) Quantitative Methods in Psychology
Statistical methods and their application to behavioral data. Topics include elements of probability theory, correlational techniques, principles of hypothesis testing, and analysis of variance. K. T. Spoehr.

10. (0100) First Year Seminar
   (0100A) Computing as Done in Brains and Computers
   Brains and computers compute in different ways. We will discuss the software and hardware of brains and computers and with introduction to the way brains are organized, the way computers are organized, and why they are good at such different things. We will talk about our current research, the Ersatz Brain Project, an attempt to design a first-class second-class brain. Enrollment limited. S/NC. J. A. Anderson.
   (0100B) Introduction to Music Cognition
   In this freshman seminar, students will learn about the variety of scientific ways to study musical cognition, emotion, ability, and function. Students will read about music cognition experiments, debunk the poor ones, design hypothetical experiments, and write about them. The underlying themes in music cognition resonate with broad issues pervading cognitive science and psychology. Enrollment limited. Written permission required. S/NC. L. M. Heller.

11. (0110) Perception, Illusion, and the Visual Arts
Visual art can be viewed as an exploration of perceptual questions. This course considers the representation of space and time in painting and film from the viewpoint of the science of visual perception. Topics include Renaissance linear perspective, picture perception across cultures, color, form, shape, abstraction, how film editing constructs events, and why Godzilla looks phony. Slide lectures and visual exercises. W. H. Warren.

32. (0320) The Biology and Evolution of Language (Anthropology 82)
Human language is made possible by specialized anatomy and brains that can regulate speech production, complex syntax, and acquiring and using thousands of words. This course examines Darwin’s theory of evolution and the archaeological and fossil records of human evolution; studies of chimpanzee communication, culture, and language which provide insights on human evolution; the physiology of human speech; and recent studies of the brain bases of human language and thought. P. Lieberman.

41. (0410) Introduction to Linguistic Theory
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 which govern how sounds are put together), syntax (the rule system governing sentence structure), and semantics (the system which relates sentences to meanings). J. L. Sedivy.

42. (0420) Human Cognition
Introduction to theoretical issues, empirical findings and controversies in human cognition. Basic issues in cognition - including memory, categorization, reasoning, decision making and problem solving will be examined. Emphasis will be on experimental methods and formal theories. S. A. Sloman.

44. (0440) Perception and Mind (Psychology 44)
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. F. DOMINI and L. M. HELLER.

45. (0450) 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—linguistics psychological, computational, and neurophysiological—are emphasized. J. L. MORGAN.

48. (0480) Human Thinking and Problem-Solving
An inter-disciplinary introduction to adult human thinking and reasoning. Covers logical thinking, computational models, reasoning and the scientific method, creativity, intelligence, visual thinking, problem solving in a group setting, and methods of teaching “thinking skills.” Students will learn about research findings on these topics and will practice techniques for improving their own techniques. First year students only. Enrollment limited. Written permission required. K. T. SPOEHR.

50. (0500) 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?). S. A. SLOMAN.

63. (0630) Children’s Thinking: The Nature of Cognitive Development (Psychology 63)
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. D. M. SOBEL.

87. (0870) Language in Africa
Introduction to the linguistic diversity of Africa through the study of African languages and their use. Examines important historical and structural characteristics of the four major language families of Africa, aspects of language use (lingua franca, pidgins and creoles, multilingualism, code switching, loan words) and issues of language policy and planning. K. DEMUTH.

88. (0880) Meaning and Thought
Does the language one speaks influence one’s thought and perception of reality? While emotions run high on this subject, the connection between language and thought remains open. This course examines how one might test this hypothesis, considers some experimental work on this domain, and investigates differences in the way languages carve up the “space” of reality in their vocabularies. P. I. JACOBSON.

For Undergraduates and Graduates

102. (1020) Neural Modeling Laboratory
Prerequisites: MA 9, 10, or equivalent; knowledge of a computer language; some background in neuroscience or cognitive science is helpful. J. A. ANDERSON.

105. (1050) *Music and Mind* (Music 123)
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: CG 1 and MU 1 or permission of the instructor. Enrollment limited. Written permission required. L. M. HELLER and M. A. PERLMAN.

111. (1110) *Introduction to Semantics*
An introduction to a variety of issues in linguistic semantics and in the related philosophical literature. Topics include: the nature of semantic representations; the relationship between meaning and the world; truth-conditional and “logical” semantics; word-meaning; the interaction of semantics and pragmatics; presupposition; the interaction of semantics with syntax. J. L. SEDIVY.

112. (1120) *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. Prerequisites: CG 41 or permission. P. I. JACOBSON.

113. (1130) *Formal Semantics*
Model-theoretic approaches to the study of the semantics of natural languages. Develops the tools necessary for an understanding of “classical” formal semantics (the lambda calculus, intensional logic; Montague’s treatment of quantification, etc.); then applies these tools to the analysis of natural language semantics; and finally turns to recent developments in formal semantic theory. Prerequisite: some familiarity with syntax or semantics or basic set theory and logic. P. I. JACOBSON.

116. (1160) *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. K. T. SPOEHR.

118. (1180) *Cognitive Development*
How do infants and preschoolers learn about the world? We will examine children’s understanding of the physical world, psychological kinds, biological entities, number, objects, and space. Empirical research will be evaluated in light of contemporary theories of development. Prerequisite: CG 63 or permission. D. M. SOBEL.

120. (1200) *Computational Vision*
An introduction to recent computational models of vision and comparison with human visual perception. Topics include Gestalt grouping, contour formation, shape from motion, shading and texture, stereopsis, color constancy, face perception, and object recognition. Prerequisite: CG 44. F. DOMINI.

121. (1210) *Introduction to Phonological Theory*
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 a brief
introduction to articulatory phonetics and phonemic analysis, it focuses on phonological analysis of different languages, discussing segmental phonology, syllable structure, autosegmental representations, stress systems, and prosodic word structure. Implications for language learning and language change are discussed. Prerequisite: CG 41. THE STAFF.

123. (1230) *The Production, Perception, and Analysis of Speech*†
An introduction to the basis of the acoustic analysis of speech, the anatomy and physiology of speech production, and the perception of speech. Discussion and demonstration of quantitative computer-implemented methods for speech analysis. Linguistic and cognitive theories are discussed in relation to the probable neural mechanisms and anatomy that make human speech possible. Lectures, discussion, and laboratory demonstrations. P. LIEBERMAN.

124. (1240) *Research Methods in Physiologic and Acoustic Phonetics*
Introduction to laboratory techniques and the analysis of data relevant to physiologic and acoustic phonetics. Emphasis on the use and interpretation of wave-form and spectrum analysis, electromyography, cineradiography, high-speed motion pictures, computer modeling of oral tract output, and experimental techniques involving the perception of synthetic and natural speech. P. LIEBERMAN.

128. (1280) *Computational Cognitive Science*
A detailed introduction to computational modeling of human cognition, summarizing traditional approaches and providing experience with state-of-the-art methods. Covers rule-based models, neural networks, and probabilistic models, and illustrates how they have been applied in several key areas in cognitive science, including reasoning, similarity, semantic representation, analogy, and causality. Connections to contemporary research in artificial intelligence and machine learning are emphasized. T. L. GRIFFITHS.

129. (1290) *Understanding the Brain*†
Computational models for learning, memory, association, and concept formation—called “connectionist models” or “neural networks.” Application of network models to cognitive science, and the implications for neural science, as well as a few potential practical applications of networks. Prerequisites: MA 9. More mathematics is helpful as a background in cognitive science. J. A. ANDERSON.

131. (1310) *Introduction to Syntax*
An in-depth investigation of natural language syntax, an intricate yet highly organized human cognitive system. Focuses primarily on the syntax of English as a means of illustrating the structured nature of a grammatical system, but the broader question at issue is the nature of the rule system in natural language syntax. Prerequisite: CG 41. P. I. JACOBSON.

136. (1360) *Introduction to Computational Linguistics* (Computer Science 146)
Investigates computational models of natural language processing for both parsing and production. Focuses primarily on syntactic parsing (i.e., algorithms that determine the syntactic structure and the “logical form” of a sentence), and the relationship between different linguistic theories and algorithms that can implement them. Recommended background: CS 51 or equivalent, and either CG 111 or CG 131, or permission of the instructor. M. E. JOHNSON.

138. (1380) *Ecological Approach to 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 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): CG 1, PY 3, CG 11, or CG/PY 44. W. H. WARREN.

141. (1410) Language Processing
Explores the nature of language processing with the goal of understanding how we produce
and comprehend language. Topics include speech production and speech perception,
lexical processing, and syntactic processing. Experimental investigations are studied in an
attempt to understand the processes and mechanisms employed in the everyday use of
language. Prerequisite (one of the following): CG 1, 41, or 45. J. L. SEDIVY.

142. (1420) Syntactic Theory and Syntactic Processing
The interface between work in theoretical syntax and psycholinguistic research on syntactic
processing. Consideration of how results in psycholinguistics support various models of
human language processing. Prerequisites: CG 131. J. L. SEDIVY.

143. (1430) 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 collecting
and analyzing child language data. Prerequisite: CG 41 or CG 45, or permission of the
instructor. J. L. MORGAN.

144. (1440) Visualizing Vision
This course provides hands-on experience in studying vision using computer graphics
combined with visual psychophysics. Students will gain a better understanding of how
images are formed, how one employs properties of image formation in the experimental
study of vision, and how the perception of complex images function in biological systems.
Labs will rely on matlab and several computer graphics packages (e.g.; Lightwave).
Enrollment limited. Written permission required. M. TARR.

145. (1450) Laboratory in Psycholinguistics
An advanced course in methodological approaches to the study of psycholinguistics.
Processes (e.g. with adult lexical access, sentence processing, corpus linguistics, etc.)
Prerequisites: CG 9 and CG 45, or equivalent. K. DEMUTH and M. E. JOHNSON.

147. (1470) Language Learning Disorders†
Examines current research on children’s developmental language disorders, focusing
especially on the genetic evidence for and linguistic attributes of specific language
impairment. Also considers issues of research design. Prerequisite (one of the following):
CG 41, 45, 141, 143, or 148. K. DEMUTH.

148. (1480) Language and the Brain
Introduction to the neurobiology of language. Topics include: the nature of language
deficits in aphasia, the role of the right hemisphere in language through studies of split-
brain patients and right brain-damaged patients, and the neural basis of language through
investigations of electrophysiological and neuroimaging techniques in normals and brain-
damaged patients. Prerequisites (two of the following): CG 1, 32, 41, 45; BN 1, 92, 93; or
PY 3. S. E. BLUMSTEIN.

150. (1500) Subcortical Brain Bases of Language and Thought
Recent studies indicate that the neural bases of human language and thought derive from a
complex network of circuits within and connecting subcortical and cortical structures.
Students prepare to evaluate published papers, noting the relationships that hold between
data and theories. Relates neurophysiologic studies to current linguistic and cognitive theories and provides the background for independent research. Prerequisites: CG 32; PY 110; or BN 1. P. LIEBERMAN.

152. (1520) Thinking (Psychology 152)
An investigation of conceptual structure, judgment, and inferential processes. The focus is on the relation between empirical evidence, theories, and models of cognitive process and structure. Prerequisite: CG 42, or consent of instructor. S. A. SLOMAN.

153. (1530) Laboratory in Cognitive Processes (Psychology 153)
Presents the experimental way of thinking by pursuing several topics in an interactive computer-based laboratory. Students run experiments as a class and, by the end of the course, run their own experiment. Focus is on experimental design, procedure, analysis, and reporting. Topics include attention, visual imagery, memory, and reasoning. Prerequisite: CG 9, CG 42, CG 44 or permission of the instructor. M. TARR.

154. (1540) The Evolution of Perceptual Systems
This is an advanced course in the study of perception from an evolutionary perspective. Students will explore the common computational principles arrived at through natural selection and used by the brain across different perceptual modalities, including vision and audition. Attention will be paid to processing principles that differ across both modalities and species. Prerequisites: One of CG 1, PY 1, or BN 1 and either CG 44 or PY 44. M. TARR.

156. (1560) Human Memory and Learning
How does human memory work and why are some things easier to learn and remember than others? This course covers experimental and behavioral studies of human memory including long- and short-term memory for text, pictures, spatial information, and autobiographical events. Emphasis on real-world situations, including education, in which memory and learning play a role. Prerequisite: CG 42. K. T. SPOEHR.

161. (1610) Laboratory in Cognitive Development
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. Prerequisites: CG 63, and CG/PY 9 or equivalent. Enrollment limited. Written permission required. D. M. SOBEL.

162. (1620) Cognitive Development in Infancy
The acquisition of knowledge during the first year of life. Special attention to the infant’s emerging concepts of space, objects, intermodal sensory connections, and speech as well as to such issues as the role of innate knowledge and the nature of the infant’s concepts and categories. J. L. MORGAN.

163. (1630) Topics in Phonology†
Provides in-depth examination of some aspect of phonological theory. Topics change yearly. May be repeated for credit.

164. (1640) Topics in Syntax and Semantics†
May be repeated for credit.

167. Advanced Quantitative Methods (Psychology 206)
Interested students should register for Psychology 206.
174. (1740) **Topics in Child Language**
In-depth study of specific issues in current first language acquisition research. Recent topics have included mechanisms of language acquisition, modes of infant speech segmentation, learnability theory, bootstrapping from speech to syntax, the acquisition of verb-argument structure and the acquisition of phonology. Students conduct primary research projects. May be repeated for credit. J. L. MORGAN and K. DEMUTH.

178. (1780) **Psychological Acoustics** (Psychology 178)
Intended for cognitive and linguistic sciences and psychology concentrators. Examines the auditory system in depth. Includes some facts about physical acoustics, signal analysis, physiology, and perception. Initial introduction of psychacoustics lead to the presentation and discussion of more complex processes and current areas of research. Topics include auditory spatial location, masking, pitch, and signal detection theory, auditory scene analysis and event perception. Enrollment limited. L. M. HELLER.

184. (1840) **Topics in Language Processing**
(1840B) **Neuroimaging and Language**
Review of neuroimaging approaches to language processing. Emphasis will be on fMRI and PET. Consideration of the nature of the functional architecture of language and its neural substrates. Topics include neural basis of speech processing, lexical/semantic processing, and syntactic processing. Prerequisites: either BN 1, CG 1 or CG 45 and one of the following: CG 148, CG 150, BN 106, BN 292, PY 47 or by permission. S. BLUMSTEIN.

186. (1860) **Topics in Cognitive Science**

187. (1870) **Concepts and Categories**
Our knowledge of the world is organized into concepts and categories. What is the basis of this organization? What information is used to make category judgments? How do children acquire concepts and categories? How are our concepts related to the language we speak? This course will examine these questions from an interdisciplinary perspective, combining relevant work in cognitive and developmental psychology, philosophy, linguistics, and computational modeling. Prerequisites: CG 42. D. M. SOBEL.

194. (1940) **The Cognitive and Neural Bases of High-Level Vision†**
An in-depth examination of the visual mechanisms used for shape perception, object recognition, spatial navigation, and mental imagery based on results from psychophysics, neurophysiology, event-related potentials, functional Magnetic Resonance Imaging, neuropsychological patient studies, and computational modeling. M. TARR.

195. (1950) **Senior Seminar in Cognitive Science** (Cognitive and Linguistic Sciences 200)
Examines general philosophical and theoretical issues that cut across cognitive science. Each student writes a substantial paper on a topic in cognitive science. Required of cognitive science concentrators. Enrollment limited to concentrators in the 7th semester or beyond, and, by permission, to others who have significant course background in cognitive science. J. A. ANDERSON.

197. (1960) **Topics in Computational Linguistics†**
Written permission required.

198. (1970) **Independent Study**
Independent study or directed research in cognitive science.
Primarily for Graduates

   Required of all graduate students in the cognitive science program. J. A. ANDERSON.

201, 202. (2980, 2981) Research in Cognitive and Linguistic Sciences
   Independent research in cognitive science.

205. (2050) Practicum in Teaching
   Each student will assist a designated faculty member in teaching a course in cognitive science or related discipline.

220. (2200) Core Topics in Cognitive Science
   A core course covering essential background and current issues in cognitive science, including experimental, computational, and neurophysiological perspectives. Three topics rotate yearly: cognition, language, and perception.

289. (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. No course credit.

299. (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. No course credit.

Cogut Center for the Humanities

Brown University has long offered a unique focus and quality in the humanities, combining the preservation of knowledge with a spirit of innovation and adventure. The humanities today include ever-vital traditional disciplines such as history, philosophy, language and literary studies, and religious studies. They also include the newer disciplines of art history, musicology, the interpretive dimensions of social sciences such as anthropology and political science, and more recently, interdisciplinary initiatives such as media studies and gender and sexuality studies.

Brown has played a key role in the pioneering of new and interdisciplinary work, while at the same time developing and advancing the frontiers of knowledge within the humanistic disciplines. Scholars at Brown are known as innovators who challenge and redefine the foundational categories of the humanities in the largest sense — by asking what it means to be human. Over the years, they have developed new modes of scholarship at the interstices of older disciplines and across the boundaries of national cultures. Scholars of the ancient, medieval, and early modern worlds have been giving us new concepts and new ways to imagine and conduct research. Those working on modern and contemporary cultures — on the language, literature, and culture of the post-colony, or the complex and often self-contradictory messages with which new media bombard us — have continued to change the horizons of the humanities.

Named for Craig M. Cogut ’75 and Deborah Cogut in recognition of their generous support, the Cogut Center for the Humanities was launched in the fall of 2003 as the Brown Humanities Center to support collaborative research among scholars in the humanities. Today, through its fellowship, grant, and distinguished visitors programs, and regularly scheduled events, the Cogut Center strives to:

• Foster innovative work in the humanities and related disciplines
• Sustain and nurture international perspectives at Brown in an era of increasing globalization
• Explore the history and effects of the rapid growth of technologies of information and visualization
• Examine the public role of the humanities in the context of recent challenges and pressures
• Enrich relations between the humanities and the studio and performing arts
• Investigate the re–emergence of pressing issues of ethics and aesthetics
• Reinvigorate the concept of critique and the role of critical theory in the humanities

The Cogut Center is poised to build on the strengths of Brown University at a moment of unique institutional distinction and growth, and at a time of particular national and global urgency. As a key player in Brown’s Plan for Academic Enrichment, the Cogut Center is providing multiple programs to bring Brown faculty and students into regular and innovative contact with each other, as well as with national and international scholars and scholarship. In fulfilling its mission to the University and to the field of humanities, the Cogut Center supports and enhances Brown’s stellar reputation in the humanities.

For additional information please visit the Center’s website at:
http://www.brown.edu/Departments/Humanities_Center/

Comparative Literature

Professors Ahearn, Armstrong, Bensmaïa, Bossy, Chow (Chair), Crossgrove (Emeritus), Gander, Golub, Konstan, Lattimore (Emeritus), Levy, McLaughlin, Merrim, Putnam, Saint-Amand, Scholes (Emeritus), Tennenhouse, Waldrop, Weinstein; Associate Professors Bernstein, Colla, Evdokimova, Foley, Gluck, Haynes, Pucci, Valente, Viswanathan; Assistant Professor Whitfield; Visiting Professor Braider; Visiting Assistant Professor Pourgouris; and members of cooperating departments.

The Department of Comparative Literature accepts qualified candidates for the degree of A.B. and Ph. D. In addition to the offerings listed below, candidates should consider such courses as may be pertinent to their particular interests in the Afro-American Studies Program or the Departments of American Civilization; Classics; East Asian Studies; Cognitive and Linguistic Sciences; English; French Studies; German Studies; Hispanic Studies; History; Italian Studies; Judaic Studies; Modern Culture and Media; Philosophy; Portuguese and Brazilian Studies; Religious Studies; Slavic Languages; and Theatre, Speech, and Dance.

Undergraduate Program

For a complete description of the standard concentration program leading to the A.B. degree, please visit http://www.brown.edu/Administration/Registrar/concentration.html.

Graduate Program

The graduate program in Comparative Literature accommodates a wide range of individual interests in literature and culture, periods, genres, history, criticism, and theory. To pursue
such work students must have linguistic preparation in three languages (including English). The program aims at developing broad knowledge of one national literature, a strong competence in two other literatures, and preparation to teach in comparative literature, cultural studies, a national literature, and literary theory.

Doctor of Philosophy

For admission to the doctoral program students will present evidence of literary study in two or three European languages, Japanese, Chinese, or Arabic. They will pursue study of their principal literature historically and in a cross-cultural context, and link it with two additional literatures in terms of genre, periods, theme, or formal features of style and convention. The program may also emphasize theory—including poetics, stylistics, feminist, sociocultural, poststructuralist, and postcolonial approaches. The general requirements for the doctorate are:

Language requirements. The completion of the program requires development of language skills sufficient for advanced work in three literatures. The languages selected (of which one may be the student’s native tongue) are chosen with a view to their appropriateness to the student’s areas of special interest. The department’s major competence is in literary expression in Western languages. However, our growing programs in classical and modern Chinese, Japanese, and Arabic provide opportunities for students trained in these languages. In addition, the study of Hebrew, ancient and modern, is available through Judaic Studies. Ordinarily two languages from the same group—Romance, Slavic, Germanic (exclusive of English)—will not be selected. For at least one of the foreign languages presented, a high degree of competence will be expected—close to native proficiency in speaking and writing in the case of a modern foreign language. Language competence will be tested by advanced coursework, the full requirement to be satisfied ordinarily during the student’s fourth semester of graduate study.

Course requirements. The student will successfully complete three years of course work in residence—sixteen courses normally, two or three of which may be individual work supervised by a staff member. Individual programs are worked out in consultation with the graduate advisor so as to meet the following requirements:

1. One graduate seminar in Comparative Literature each semester during the first two years of study.
2. A substantial core of courses primarily in one national literature along with significant related work in at least two others. Courses taken in the second and third literatures must include a minimum of two regularly scheduled graduate seminars.
3. A spread of courses comprising work in all three major genres (poetry, drama, narrative) and covering a significant range of distinct cultural epochs (medieval, romantic, modern, and so forth).
4. Some work in the area of literary theory, literary criticism, or literary translation.
5. If pertinent, courses relating literature to other fields of inquiry or expression; for example, linguistics, philosophy, psychology, history, music, the visual arts.

Teaching. Teaching experience, in comparative courses and where applicable in foreign language or English composition, is an integral part of the student’s program. It is expected, circumstances permitting, that every graduate student will serve at least two years as a teaching assistant, and that most students successfully completing requirements will be funded in this way for several years.
Major literature examination and comparative project. This combination of exercises is designed to allow students to develop competence in one national literature while at the same time fostering the approaches and skills necessary for comparative work. At the beginning of the third year, students will take an oral examination on their major literature. During the third year independent study courses will prepare students to present a written comparative project and an oral presentation based upon it which may be developed thereafter into the doctoral thesis.

The dissertation. The doctoral thesis prospectus will be submitted by September 30 of the fourth year of study. Funding for the fifth year will be contingent on substantial, demonstrated progress on the thesis by January of the fourth year.

The Master of Arts Degree

The department does not admit terminal A.M. candidates and does not require a master’s degree as a prerequisite for the doctorate. A student may, if he or she wishes, take an A.M. by completing one year of full-time course work in residence (normally four courses each semester), satisfying two of the three language requirements for the Ph.D., and completing a master’s thesis consisting of an essay of 50 to 60 pages. Upon advancement to doctoral candidacy (i.e., after successful completion of all Ph.D. requirements save the dissertation) a student, upon request, will be awarded an A.M. degree.

For additional information please visit the department’s website at: http://www.brown.edu/Departments/Comparative_Literature/

Courses of Instruction

Primarily for Undergraduates

51. (0510) Literary Creation and Literary Discourse

(0510B) Caribbean re-writes
Through close readings of canonical European texts and rewritings of them in the twentieth-century Caribbean, we explore the literary possibilities and political implications of writing the old in a new language. Readings include Columbus’s diaries alongside Carpentier’s The Harp and the Shadow (Cuba); Shakespeare’s Tempest with that of Aimé Césaire (Martinique); and Jane Eyre and Wuthering Heights alongside novels by Jean Rhys (Dominica) and Maryse Condé (Guadeloupe). For first year students only. E. K. WHITFIELD.

Dostoevsky’s The Brothers Karamazov: The Art of the Novel (Russian 32)
Interested students should register for Russian 32.

Memory Traces: Literature, Film, and Narrative Media

(0510D) Poetry and Music
This course explores the collaboration between poets and composers in the twentieth century. It will primarily focus on Modern Greek composers (Hadjidakis, Theodorakis, Lagos and others) and their collaboration with numerous poets (Garcia Lorca, Gatsos, Eluard, Elytis, Neruda, Ritsos and others). These works will also be examined in depth from a literary and theoretical perspective. M. POURGOURIS.

(0510C) The World of Lyric Poetry (East Asian Studies 51)
Lyric poetry is the prime mode for conveying emotion in many cultures, from ancient times to the present day. This course will survey the variety of forms and themes from
the earliest texts from Greece, Rome, China and Japan, then the glories of the Renaissance and the Tang Dynasty, then move to the challenges for lyric expression in the modern world. For first year students only. D. J. LEVY.

61. (0610) **The Functions of Literature**

(0610C) **Banned Books** (East Asian Studies 61)
An examination of literary censorship in which we read various texts forbidden for putatively violating social, religious, and political norms in particular historical and cultural contexts. We also analyze the secondary literature surrounding the banning of these ostensibly “dangerous” texts in order to theorize questions and assumptions about the power of art and the ironies generated by these debates. M. S. VISWANATHAN.

71. (0710) **Literature and its History**

(0710R) **Classical Arabic Prose** (Arabic 81)
A survey of classical Arabic prose literature, from early Muslim chronicles, Ibn al-Muqaffa’s *Kalila wa-Dimna*, *Alf layla wa-layla*, *Maqamat* of al-Hamadhani and al-Hariri, and *Hayy ibn Yaqzan*. (These are all standards—and basic to any undergraduate survey of Arabic prose.) E. COLLA.

(0610E) **Crisis and Identity in Mexico, 1519–1968**
The course examines four moments of crisis or critical moments for the forging of Mexican identity: the Conquest, the hegemonic 17th century, the Mexican Revolution, the “Mex-hippies” of the 1960s. We especially explore how key historical, essayistic, and literary writings have dealt with Mexico’s past and present, with trauma and transformation. Excellent preparation for study in Mexico. In English. No prerequisites. S. MERRIM.

(0610A) **The Far Side of the Old World: Perspectives on Chinese Culture**
A survey of traditional Chinese culture focusing on the major literary and artistic achievements of six major periods in Chinese history, including philosophical texts, poetry, various forms of the fine arts, and vernacular fiction and drama. A broad range of primary materials will give the student greater insight and appreciation of Chinese culture in general and also provide a foundation for further study of East Asia in other disciplines. D. J. LEVY.

*Faust and the Faust Legend* (German 75)
Interested students should register for German 75.

*Great Works from Germany* (German 90)
Interested students should register for German 90.

*Holocaust Literature* (Judaic Studies 39, English 79)
Interested students should register for Judaic Studies 39.

*Introduction to Modernism* (English 77)
Interested students should register for English 77.

(0710C) **Introduction to Scandinavian Literature**
An introduction to major works of Scandinavian writers, painters and filmmakers over the past 150 years. Figures include Kierkegaard, Ibsen, Strindberg, Munch, Hamsun, Josephson, Södergran, Lagerkvist, Vesaas, Cronqvist, August and Vinterberg, as well as children’s books by Astrid Lindgren and Tove Jansson. A. L. WEINSTEIN.
Jewish Fiction (Judaic Studies 35, English 79)
Interested students should register for Judaic Studies 35.

(0710I) New Worlds
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 paradisical Antilles, the U.S. Southwest, Tenochtitlan/Mexico City, Lima, Potosí. We read European, indigenous, and Creole writers, including: Columbus, Las Casas, Bernal Díaz, Aztec poets, Guaman Poma, Sor Juana. In English. Excellent preparation for study abroad in Latin America. Enrollment limited. Written permission required. S. MERRIM.

(0710Q) Odysseus Across the Centuries
The course examines the reincarnations of the Homeric figure of Odysseus in contemporary literatures. It approaches the texts historically, culturally and literary. How is the Odysseus myth altered from culture to culture (Greece, Rome, Ireland, the Caribbean), how is it re-adapted in different historical periods, how does Odysseus change as the genre changes (epic, poetry, the novel, film, drama)? M. POURGOURIS.

81. (0810) Ideas, Myths, and Themes
The Bible as Literary Source (Literary Arts 122)
Interested students should register for Literary Arts 122.

The Bible as Literature (Judaic Studies 26, English 79, Religious Studies 88)
Interested students should register for Judaic Studies 26.

(0810O) Civilization and Its Discontents
This course 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, Prevost, Bronte, Faulkner, Morrison, Blake, Whitman, Dickinson, and Rich. A. L. WEINSTEIN.

(0810J) The Colonial and Postcolonial Marvelous (Ethnic Studies 79)
A celebration and critique of the marvelous in South American and related literatures (U.S., Caribbean). We follow the marvelous from European exoticizing of the New World during the colonial period to its postcolonial incarnations in 'magical realism' and beyond. We attend particularly to the politics and marketing of the marvelous, in writers including Borges, Chamoiseau, Columbus, García Márquez, Fuguet. Reading in English or Spanish. E. K. WHITFIELD and S. MERRIM.

Contemporary Israeli Literature in Translation (Judaic Studies 31, English 79)
Interested students should register for Judaic Studies 31.

(0810F) Desire and the Marketplace (East Asian Studies 81)
Studies love and desire as the interplay between men, women, and money in mercantilized societies, in seventeenth century Japan, eighteenth century England, nineteenth century France, and twentieth century Africa. Novels featuring female protagonists by Sawk, Defoe, Flaubert, Emecheta and Bâ, readings in economic and feminist theory, and visual art--Japanese woodcuts, Hogarth, nineteenth century French painting, West African arts. M. S. VISWANATHAN.

(0810G) Equity: Law, Literature, and Philosophy
Justice, rigorously applied, yields injustice. This paradox has haunted Western aspirations toward legal and political justice from antiquity to the Renaissance. It
necessitated the formulation of a complementary principle, equity, whose job it was to correct or supplement the law in cases where the strict application of it would lead to unfairness. We will read Sophocles, Shakespeare, Dickens, Kafka, and others.

K. HAYNES.

(0810H) *How Not to Be a Hero* (Classics 81)
Shakespeare wrote two great, intense plays about ancient characters who were irredeemable failures: Coriolanus and Timon of Athens. What can failure teach us? What kind of strength does a language of failure possess? We will also read the ancient sources themselves (Livy, Lucian, Plutarch), and modern adaptations of these stories (Bertolt Brecht, T.S. Eliot, Günter Grass, Wyndham Lewis). K. HAYNES.

(0810Q) *Imagining the Other, Constructing the Self*
National literatures often define the 'Self' (collective or personal) in relation or in opposition to the 'Other' (the enemy/the racial other). This course examines narratives in which this tension is played out with particular emphasis on the cases of Greece and Turkey. It will also consider the literature of Cyprus as a contested region where this tension is played out. M. POURGOURIS.

(0810R) *Murder, Mystery, Meaning*
Detective fiction from ancient Greece through the Romantics (Hoffman, Mary Shelley, Poe) to the post-Romantic “modernites” of Dickens, Doyle, Sayers, Chandler, Le Carré, and Mosley. Themes include the genre’s links to the “uncanny” and “fantastic,” its experiments with semiotic, hermeneutic, and Freudian models of reading, and its telltale relation to the buried forms of violence defining its wider social context. **THE STAFF.**

*Myth in Modern Greek and World Literature*
This course examines the manifestations of myth in Modern Greek and World Literature. It aims to familiarize student with myth theory and the use of the mythical subtext in modernity. Myth will be examined in the context of its relation to history, cultural memory, and psychoanalysis. Other topics include: scapegoat myths, folklore, modern myths, and myths of the city. M. POURGOURIS.

(0810T) *Tales And Talemakers Of The Non-Western World* (East Asian Studies 81)
Examines many forms of storytelling in Asia, from the *Epic of Gilgamesh* and the *Arabian Nights Entertainments* to works of history and fiction in China and Japan. The material is intended to follow the evolution of non-western narratives from mythological, historical and fictional sources in a variety of cultural contexts. Topics will include myth and ritual, the problem of epic, tales of love and the fantastic, etc. D. J. LEVY.

For Undergraduates and Graduates

121. (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. S. BERNSTEIN and Z. SNG.

141. (1410) *Studies in Drama*
(1410G) Balkan Cinema: Shooting War and Conflict and Identity
(Modern Culture and Media 120)
The course aims to familiarize students with Balkan Cinema (Greece, Former Yugoslavia, FYRO Macedonia, Turkey, and Bosnia-Herzegovina), as well as to examine the historical, literary, cultural, and political subtext(s) of the assigned films. The course methodology is comparative and interdisciplinary as it includes literary texts (fictional and poetry) in addition to theoretical commentaries (film theory, critical theory, reviews, etc.). M. POURGOURIS.

(1410H) The Body in the Baroque (English 131)
Explores the human body as both the instrument and emblem of modern historical experience in baroque theatre. Themes include theatre’s relation to painting and rhetoric, the shift from a Renaissance poetics of masculine “deeds” to the neo-Aristotelian aesthetics of feminized “action,” and the theologico-political implications of theatrical spectacle. Plays by Shakespeare, Webster, Corneille, Molière, Racine, Calderón, and Lohenstein among others. THE STAFF.

Contemporary Chinese Cinema: Classics and Controversies
(Modern Culture and Media 120)
Interested students should register for Modern Culture and Media 120.

Mise en Scene (Theatre, Speech and Dance 138, Modern Culture and Media 120)
Interested students should register for Theatre, Speech and Dance 138.

Samuel Beckett (Literary Arts 122, English 171)
Interested students should register for Literary Arts 122.

Three Bake-Offs (Literary Arts 115)
Interested students should register for Literary Arts 115.

142. (1420) Studies in Narrative

Conrad’s Atlas
A survey of the fiction of Joseph Conrad and his African interlocutors. Also, the course will serve as an introduction to reading literature with a focus on its description of spatial relationships. Written permission required. E. COLLA.

Esthers of the Diaspora: Female Jewish Voices from Latin America
(Portuguese and Brazilian Studies 150, Judaic Studies 104)
Interested students should register for Portuguese and Brazilian Studies 150.

(1420X) The European Novel From Goethe to Proust (English 151)
Readings of major European novels of the 19th century as literary reflections on philosophical questions such as aesthetic and ethical judgment, subjectivity, mimesis, memory and the novel itself as a genre. Authors include Goethe, Stendhal, Balzac, Dickens, Flaubert and Proust. Selections from Kant, Hegel, Marx, Lukács and Benjamin. K. McLAUGHLIN.

Fairy Tales and Culture (French Studies 133)
Interested students should register for French Studies 133.

(1420F) Fantastic and Existentialist Literatures of Argentina, Uruguay and Brazil
Jorge Luis Borges proclaimed that South American writers can “wield all European themes,” without superstition, with irreverence. This course examines the ways in which (mostly mid-) 20th century writers from Argentina, and Uruguay and Brazil appropriated European fantastic and existentialist fictions, taking them in original
directions. Readings, in English or original languages, include Borges, Cortázar, Onetti, Lispector. S. MERRIM.

Faulkner (English 171)
Interested students should register for English 171. Written permission required.

(1420Y) Gigantic Fictions (East Asian Studies 142)
What is the relation between literary gigantism and mimesis? How do ‘gigantic fictions’ threaten to break their literary bounds? What holds these mammoth narratives together? We will address these questions and others through a close reading of three works: Murasaki Shikibu’s The Tale of Genji, Tolstoy’s War and Peace and James Joyce’s Ulysses. M. S. VISWANATHAN.

Heros, Failures, and Other Peculiar Characters - The German Novel from Goethe to Kafka (German 144)
Interested students should register for German 144.

(1420V) Visionary Fictions
A series of works revealing the enigmatic features of visionary or ecstatic writing. Writers will be chosen from among Blake, Novalis, Breton, Burroughs, Monique Wittig, Angela Carter, Peter Ackroyd, Jamaica Kincaid. Written permission required. E. J. AHEARN.

(1420R) The 1001 Nights
So many nights, so many versions of those nights. Can we read The 1001 Nights as a discrete text, separate from the stories that gave birth to it or from the myriad of narratives it has spawned in the modern period? Explores the philological issues raised by the different Arabic versions as well as rewritings by Allende, Djebar, and Pamuk. E. COLL.

143. (1430) Studies in Poetry

The Cantos in their Environment (Literary Arts 122)
Interested students should register for Literary Arts 122.

(1430K) The Classical Tradition in English Poetry
We will read a number of famous short poems in Greek and Latin in conjunction with the major English writers who later translated, imitated, and reworked them. The class will be arranged by genre, and we will focus on the georgic, epistle, idyll, and epigram, in both ancient and modern guises. We will read Horace, Theocritus, Virgil, Dryden, Pope, Tennyson, and others. K. HAYNES.

(1430D) Critical Approaches to Chinese Poetry (East Asian Studies 143)
Examination of works of Chinese poetry of several forms and periods in the context of Chinese poetic criticism. Knowledge of Chinese not required, but provisions for working with original texts will be made for students of Chinese language. D. J. LEVY.

Leaves of Words: Japanese Poetry and Poetics
A historical study of various forms of waka (Japanese poetry) from the 8th century anthology the Man’yoshu to the advent of modern verse in the latter part of the 19th century. We will examine the significance and functions of poetry historically as well as the relationship of poetry to religion and society, the political implications of waka, and the dominant aesthetic governing poetic conventions in different periods. M. S. VISWANATHAN.

Poetry Newly in Translation (Literary Arts 123)
Interested students should register for Literary Arts 123.
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 Dante. Works include Sappho, Plato, Aristotle, Catullus, Petrarch, Longinus, Goethe, Kant, Wordsworth, Baudelaire, Rilke, Benjamin, Stevens, Heidegger, Derrida, Danto. S. M. FOLEY.

Poetry, Mind, World (Literary Arts 123)
Interested students should register for Literary Arts 123.

Post-War Europe and its Poetry: Montale, Celan, Hill
A close reading of three books of poems in their entirety: Montale’s La Bufera e altro, Celan’s Die Niemandsrose, and Hill’s Canaan. These books are in their different ways concerned with the historical meaning and possible survival of Europe after the Second World War, as well as with the betrayals and self-betrayals of the period; we will read them in that light. K. HAYNES.

Voices of Romanticism
Readings of lyric poetry in the European Romantic tradition. Focus on problems of lyric subjectivity and representation, and the rhetoric of “voice.” Emphasis on formal features of poetry. The course will be based on close reading and frequent writing assignments. Readings from Wordsworth, Shelley, Keats, Goethe, Novalis, Hugo, Nerval, Lamartine, Baudelaire and others. Knowledge of French or German required, or by permission. S. BERNSTEIN.

(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 Dante. Works include Sappho, Plato, Aristotle, Catullus, Petrarch, Longinus, Goethe, Kant, Wordsworth, Baudelaire, Rilke, Benjamin, Stevens, Heidegger, Derrida, Danto. S. M. FOLEY.

(1430I) Post-War Europe and its Poetry: Montale, Celan, Hill
A close reading of three books of poems in their entirety: Montale’s La Bufera e altro, Celan’s Die Niemandsrose, and Hill’s Canaan. These books are in their different ways concerned with the historical meaning and possible survival of Europe after the Second World War, as well as with the betrayals and self-betrayals of the period; we will read them in that light. K. HAYNES.

(1430L) Voices of Romanticism
Readings of lyric poetry in the European Romantic tradition. Focus on problems of lyric subjectivity and representation, and the rhetoric of “voice.” Emphasis on formal features of poetry. The course will be based on close reading and frequent writing assignments. Readings from Wordsworth, Shelley, Keats, Goethe, Novalis, Hugo, Nerval, Lamartine, Baudelaire and others. Knowledge of French or German required, or by permission. S. BERNSTEIN.

161. (1610) Studies in Criticism†

171. (1710) Introduction to Literary Translation
   Advanced Translation (Literary Arts 101)
   Interested students should register for Literary Arts 101.
   (1710A) Introduction to Literary Translation: Translation as Art (Literary Arts 101)
   S/NC. B. K. WALDROP.

181. (1810) Studies in the Literature of Ideas
   China Modern: An Introduction to the Literature of Twentieth-Century China
   (East Asian Studies 107)
   Interested students should register for East Asian Studies 107.
   (1810C) City (B)Lights (Urban Studies 181)
   Interdisciplinary explorations of the modern urban experience featuring social sciences, literature and film. Convergences and differences in the presentation of urban life in literature, film, the visual arts, urban planning, and social sciences. City populations, bureaucracy, power groups, alienation, urban crowds, the city as site of the surreal, are central themes. Against the background of classic European urban images, American cities and literary works are foregrounded. E. J. AHEARN.
   Disenchantment and Melancholia in Postcolonial Africa (French Studies 172)
   Interested students should register for French Studies 172.

   Eighteenth Century German Aesthetics (German 132, History of Art and Architecture 132)
   Interested students should register for German 132.

   European Intellectual and Cultural History: Exploring the Modern, 1880–1914
   (History 122, Modern Culture and Media 120)
   Interested students should register for History 122.
European Intellectual History: Discovering the Modern (History 121, Modern Culture and Media 120)  
Interested students should register for History 121.

European Intellectual History: Exploding the Modern (History 123, German 166, Modern Culture and Media 120)  
Interested students should register for History 123.

(1810G) Fiction and History (Portuguese and Brazilian Studies 150)  
How the historical fiction that has flourished over the past three decades challenges the notions of objectivity and totalization, while providing alternative viewpoints for the reconstruction and reinterpretation of the past. Authors considered include Grass, Doctorow, Delillo, Scliar, García-Márquez, Allende, and Jorge. Theoretical texts by White, LaCapra, Benjamin, Ricoeur, and Chartier. Films such as The Official Story and Europa, Europa. Prerequisite: two previous courses in literature. Written permission required. L. F. VALENTE.

(1810N) Freud: Writer and Reader  
A broad survey of Freud’s writings, with particular emphasis on psychoanalysis’ relevance to literary theory and cultural analysis. Readings include Freud’s major works, as well as secondary sources focused on applications to literary studies. S. STEWART-STEINBERG.

From Bluestockings to Yellow Cabs  
An examination of women’s writing in modern Japan from the Meiji Period (1868–1912) to the end of the twentieth century. We will read writers such as Higuchi Ichiyo, Miyamoto Yuriko, Hayashi Fumiko, Enchi Fumiko, Tsushima Yuko, Yamada Amy and Yoshimoto Banana. Topics include the relation of ‘woman’ to the modern, the legacy/construction of the past, the implications of joryu bungaku (women’s literature), the problem of resistance/subversion, and the question of representation. M. S. VISWANATHAN.

Greek Modernism in Context  
This course examines the rise of Greek Modernism in the more general context of European Modernism. It begins with a survey of Modernism and the rise of such movements as Dadaism and Surrealism in Zurich and Paris and proceeds to examine the response of Greek modernists to these movements. Key concepts and topics include: belated modernism, modernist painting, psychoanalysis, construction of national identity, and revolution. M. POURGOURIS.

Islam and the Self in Modern Persian Literature (Religious Studies 188)  
Interested students should register for Religious Studies 188.

(1810O) Latin American Literature in Dialogue with France  
Takes up the question of influence in Latin American literary and intellectual self-fashioning, specifically with regard to France. Explores the productivity and perplexity of this relationship through romanticism and articulations of the real (as realism, surrealism and magical realism). Approaching the twenty-first century, considers Latin American perspectives on French theories of feminism, postmodernism and globalization. Knowledge of French or Spanish required. E. K. WHITFIELD.

Literature and the Culture of Capitalism (English 151, Modern Culture and Media 120)  
Interested students should register for English 151.
(1811P)  *Literature and Resistance: Revolt in the Time of Oppression*  
This course examines texts, (poems, novels, films, short stories, music) written during times of political oppression. Much of the material will focus on the period 1967–1974 and the rule of the Greek Junta; texts from other literatures written under similar oppressive regimes will be considered. The course aims to explore the relationship between literature and censorship, exile, trauma, and revolt. M. POURGOURIS.

*Literature and Society* (Modern Culture and Media 120, English 190)  
Interested students should register for Modern Culture and Media 120.

*Love, Adultery, and Sexuality* (Russian 145)  
Interested students should register for Russian 145.

(1811M)  *Michel Foucault and Comparative Thinking*  
(Modern Culture and Media 150)  
Focuses on the thematics and controversies of Foucault’s work, both through examination of his texts (e.g. *History of Sexuality, Discipline and Punish, The Order of Things*, and others) and through discussions of his interlocutors writing on subjects such as sexual politics, knowledge production, history, feminism, literature, race and bipower. Enrollment limited. Written permission required. R. CHOW.

(1811O)  *Modernism: From Paris to Athens, 1900s - 1950s*  
The course examines Modernism as it developed in major European cities. Apart from focusing on major venues of modernism (Zurich, Berlin, Paris) it centers on marginal geographical spaces with specific emphasis on Athens, Greece. It further explores the rise of such movements as Cubism, Futurism, Dadaism and Surrealism and proceeds to explore the reaction of Greek modernists to these movements. M. POURGOURIS.

*Opera, Politics, History, Gender* (Music 135, Italian Studies 133)  
Interested students should register for Music 135.

(1811J)  *The Paternalistic Thriller and other Studies in Colonial Fiction*  
(East Asian Studies 181)  
The impact of colonialism on European fiction from the rise of empire to its decline and fall, focusing on authors who wrote from direct contact with the peoples of Africa and Asia, such as Rudyard Kipling, Joseph Conrad, T.E. Lawrence, E.M. Forster, and Isak Dinesen. Topics will include romantic images of conquest, imperial ideology in literature, differing attitudes towards acculturation, and the changing symbolism of exotic settings. D. J. LEVY.

(1811N)  *Persons and Portraits: Self in Early Modern Europe*  
Challenges the presumed supremacy of the “modern subject,” the sovereign rational mind personified by Descartes. Rival theories of self in Machiavelli, Luther, Montaigne, Hobbes, Pascal, and Spinoza are explored alongside the richly embodied “persons” pictured in painting (Titian, Rembrandt, Velázquez), conduct literature (Castiglione, La Rochefoucauld), drama (Milton, Molière, Calderón), psychological fiction (La Fayette), and satiric prose (La Bruyère). Enrollment limited. Written permission required. THE STAFF.

Poisonous or Prophetic?  
Wright’s *Native Son*, Burrough’s *Naked Lunch*, Derrida’s *Specters of Marx*, and Rimbaud. E. J. AHEARN.

*Police, Nation and Novel in Modern Egypt*  
Early 20th century Egyptian novels often dwelt on the problematic relationship between the nation and the state. By the 1960s, Egyptian novels began to suggest that
the two terms were opposed. This course will explore the ruptures between the nation and the state by way of detective and potboiler novels, by authors such as al-Hakim, Mahfouz, al-Ghitani and Ibrahim. E. COLLA.

(1811K) The Present Absent in Palestinian Literature
Though “the present absentee” is not a label of Palestinian self-identification, it does describe the parameters of one ongoing struggle in Palestinian literature and film: to prove, despite all odds, Palestinian presence. This course will explore the dialectic of presence and absence in the works of such Palestinian artists as Mahmoud Darwish, Emile Habibi, Soheir Hammad, Jabra Ibrahim Jabra, Ghassan Kanafani, Sahar Khalifa and Elie Suleiman. E. COLLA.

Sensation and Sensibility of Ideas (English 151)
Interested students should register for English 151.

A Shadow-Land of Mystery: The Balkans in The European and American Imagination, c1800–1950 (History 197, International Relations 180)
Interested students should register for History 197.

Writing War (English 171)
Interested students should register for English 171.

191, 192. (1970) Independent Study

198. (1990) Honors Conference
Special work or preparation of honors theses under the supervision of a member of the staff. Open to honors students and to others.

Primarily for Graduates

252. (2520) Seminar in Forms and Genres†

265. (2650) Theory of Literature
(2650F) Irony
A study of the trope of irony and its evaluation, especially in the Romantic tradition. Focus on the epistemological implications of irony and the role it plays in the philosophical tradition and in contemporary criticism. Readings from Plato, Hegel, Schlegel, Kierkegaard, Baudelaire, Lukács, Booth, De Man, Rorty and Derrida. S. BERNSTEIN.

On the Sublime (German 266)
Interested students should register for German 266.

272. (2720) Theory and Practice of Literary Translation
May be repeated for credit.

282. (2820) Special Topics in Comparative Literature
Abstraction and Resistance (Theatre, Speech and Dance 220)
Interested students should register for Theatre, Speech and Dance 220.

Actors Network and Literature
Actor Network Theory posits that agency is spread among a moving assemblage of people, objects and things, working together (and at odds) with one another. This course surveys foundational ANT texts alongside modern social theories (on power/knowledge, alienation, division of labor, disenchantment of the world) and literary works by modern authors (Conrad, Delillo, Dos Passos). E. COLLA.
(2820J) The Imagination of God in 17th-Century Literature
Coming to grips with 17th-century sensibilities means tackling God, a compulsory theme for believers and unbelievers alike. A series of close readings devoted to a wide variety of authors (Shakespeare, Donne, Herbert, and Milton; Descartes, Corneille, Pascal, and Racine; Bidermann, Spinoza, and Calderón) provides an introduction to this most central if now neglected feature of the early modern imaginary landscape.

THE STAFF.

(2820F) Latin America and Theory
Explores the engagement of Latin American literature and criticism with non-Latin American bodies of literary and cultural theory (which may include poststructuralism, postcolonialism, postmodernism and cultural studies), addressing tensions between the autochthonous production of theoretical frameworks and their import from other contexts. Readings include the Latin American Subaltern Studies group, Revista de Crítica Cultural, Rama, García Canclini, Sarlo, Richard and others. E. K. WHITFIELD.

(2820I) Literature in the State of Exception
This course takes as its point of departure Walter Benjamin’s famous diagnosis of modernity as a paradoxical condition under which the exception has become the rule. We will consider the aesthetic and political implications of such a state of exception in nineteenth-century literature. Authors include Baudelaire, DeQuincey, Arnold, Melville, Whitman, Benjamin, Derrida, Nancy and Agamben. K. MCLAUGHLIN.

(2820G) Mimeticism and Cross-Cultural Representation
(Modern Culture and Media 210)
Though much criticized and discredited especially since poststructuralism, mimeticism as a theoretical problem has lost none of its critical interest. This course revisits aspects of well-known debates on the mimetic, examines ideologically related issues, and explores mimeticism’s relevance in cross-cultural representation as well as in literary studies. R. CHOW.

The Necessary Gothic (English 256)
Interested students should register for English 256.

(2820H) The Politics and Aesthetics of Masochism
Masochism is defined as a, aestheticized positive, consensual investment in power relations. As such, it directly engages the relationship between politics and aesthetic forms, but as a sexualized relationship. Masochism articulates relations of gender in ways that seem to challenge traditional structures. Readings include novels and films, as well as theoretical engagements with masochism. S. STEWART-STEINBERG.

(2820D) The "Tenth Muse" Phenomenon
The texts and contexts of women writing in English, Spanish and French, during the sixteenth and especially seventeenth centuries. Often dubbed 'Tenth Muses,' these first early modern women writers to gain public prominence played 'extreme games' and/or epitomized socially sanctioned scripts for women. Authors include, among others: Anne Bradstreet, Margaret Lucas Cavendish, Sor Juana, Mme de Lafayette, Maria de Zayas. S. MERRIM.

283. (2830) Special Problems in Comparative Literature

Histories of the Early Modern Body
This seminar considers the production of knowledge about the body in the early modern period. The institution of science and how the emerging “science” of the body was visualized; discourses of the erotic, the scientific and the religious; the body in
varied cultural performances including the blason, devotional texts, erotica, drama, etc. Texts include theoretical work on gender and sexuality. K. A. Newman.

(2830F) Walter Benjamin and Modern Theory (English 290, Modern Culture and Media 210)
Intensive study of Walter Benjamin’s essays on modern culture and literature (in particular Goethe, Baudelaire, Proust, and Kafka). Explores the consequences of his thinking for problems in contemporary literary and cultural theory. German and/or French helpful but not required. K. McLaughlin.

291, 292. (2980) Reading and Research
299. (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. No course credit.

Center for Computation and Visualization

At the Center for Computation and Visualization (CCV), we develop and maintain parallel computing and Virtual Reality display resources for use by the University research community, and engage in research in graphics, visualization and computational research. An adjunct activity is assistance and support in developing applications for our technologies in Brown’s curricula. By establishing a matrix for multi-discipline computational research, visualization research and research visualization, we will stimulate intellectual dialogue and foster new collaboration, broadening and adding new academic structure to the University’s programs of research and science instruction.

The center maintains and is developing immersive and semi-immersive display devices. These include a TAN VR-Cube (also known locally as a “Cave”), a tiled stereo wall and desk-style displays. The Cave is our 8’ cube wherein the floor and three walls are projected to provide a virtual environment. Special glasses allow 3D stereo depth-perception, and a variety of tracking devices allow software to track the position of a user’s hand, head, wand, etc. The Cave also allows sound-based interaction.

We maintain several parallel computing resources. The 98-processor Intel Xeon parallel rendering cluster can be used for parallel computation, and there are two other clusters, a 106-processor AMD Athlon cluster and a 26-processor Intel Xeon cluster, that are dedicated to parallel computation. In addition, we have a 72-processor IBM SP system that is dedicated to parallel computation, and maintain several clusters dedicated to particular research groups. A Lustre parallel filesystem provides 40 terabytes of high-performance disk storage, and a Tivoli Storage Manager system provides 600 terabytes of backup and archival tape storage.

For additional information please visit the center’s website at:
http://www.ccv.brown.edu/

Computer Science

Professors Black, Charniak (University Professor of Computer Science), Dean, Herlihy, Istrail (Julie Nguyen Brown Professor in Computational and Mathematical Sciences),
Computer Science combines the intellectual challenge of a new discipline with the excitement of an innovative and rapidly expanding technology. It has been an active area at Brown for over 40 years. The department resides in Brown’s Center for Information Technology; this striking building houses many of the university’s computing activities, as well as the department’s instructional computing facilities and research labs. Faculty, staff and students are provided state-of-the-art computing facilities managed by the department’s own technical staff.

The Department of Computer Science offers standard Sc.B. and A.B. concentrations, standard concentrations in mathematics and computer science, applied mathematics and computer science, economics and computer science, and computational biology, a master’s program, and a Ph.D. program. For a complete description of these standard concentration programs please visit: http://www.brown.edu/Administration/Registrar/concentration.html.

The undergraduate program is designed to combine educational breadth in the areas of software and theoretical computer science with deeper understanding of specialized areas such as analysis of algorithms, artificial intelligence, computer graphics, computer security, computer systems and networks, information management, programming languages and compilers, software engineering, and theory of computation. Undergraduates usually take at least one semester of faculty-supervised independent study, working either on a project of their own choice or as a member of a team on a faculty-sponsored research project.

The department also provides a wealth of opportunities for graduate research in computer science. Graduate students at Brown pursue research in a number of areas including: artificial intelligence, combinatorial optimization, computational biology, computational geometry, computational neuroscience, computer graphics, computer vision, cryptography, database systems, design and analysis of algorithms, document engineering, educational technology, intelligent agents, machine learning, mobile and ubiquitous computing, nanocomputing, natural language processing, operating systems and distributed systems, parallel computing, programming languages, robotics, scientific visualization and modeling, software engineering, theory of computation, user interfaces and virtual reality, and verification and reliable systems. The established coordination between the Department of Computer Science and other departments of the University provides an unusual opportunity for advanced research both in traditional “core” computer science and in areas combining computer science and such fields as applied mathematics, cognitive science, engineering, and biology and medicine.

**Undergraduate Programs**

Undergraduate concentrations in computer science encourage students to take both theoretical courses that develop logical and mathematical reasoning abilities and practical courses that provide experience in the construction, design, and implementation of real computing systems.
An additional information about concentrations in computer science may be found on the department’s web page: http://www.cs.brown.edu/ugrad/ or http://www.brown.edu/Ad-
ministration/Registrar/concentration.html

Computer programming is a methodical expression of complicated ideas. An appropriate writing course serves not only to sharpen this ability but also to facilitate the description of programs to others, an integral part of the programming task. Concentrators must take an approved writing course. To qualify for approval, a course should require at least two essays and be graded in part on the quality of those essays. Students wishing to use a particular course to fulfill the writing requirement should obtain a writing approval form from the Department of Computer Science and have it signed by the course’s instructor. Writing requirements are given at: http://www.cs.brown.edu/ugrad/concentrations/writing.html/

Graduate Programs

Brown University offers two graduate degrees in computer science: an Sc.M. for those who wish to improve their professional competence in computer science or to prepare for further graduate study, and a Ph.D. The requirements for each are outlined below.

Master of Science. Sc.M. students must satisfactorily complete eight approved courses. A project or thesis is optional. Two of the courses may be reading and research courses if a project or thesis is elected. Of the remaining six courses, two must be “practice” courses one of which must have a substantial programming requirement, and two must be “theory” courses. The remaining courses should be chosen so that the overall program provides depth in an area of specialization. The six practice, theory, and elective courses must be 100-level or 200-level courses other than reading and research courses. At least two of these courses must be 200-level courses.

Doctor of Philosophy. Ph.D. students must satisfy a set of requirements for admission to candidacy, fulfill major and minor course requirements, do a thesis proposal, complete a thesis that embodies the results of original research and gives evidence of high scholarship, and obtain 24 tuition credits.

The requirements for admission to candidacy include a course requirement that encourages breadth of study in diverse areas of computer science, a programming assignment that tests programming ability, and a research project that tests ability to do research. These requirements must be completed by the end of the student’s second year. Upon satisfying these requirements the student will be formally admitted to candidacy for the Ph.D. degree in computer science.

The student must complete one major and two minor course requirements. Each requirement is normally met by the satisfactory completion of two approved one-semester courses. The minor requirements are normally one inside and one outside the field of computer science. The major and minor course requirements are normally completed by the end of the student’s third year in residence.

The student’s thesis research will normally be done under the supervision of a member of the faculty of the Department of Computer Science. The thesis will be read by the thesis supervisor and two readers appointed by the graduate committee upon the recommendation of the thesis supervisor. It will be presented at a meeting open to students, faculty, and the public. Its adequacy will be judged by the thesis supervisor, the readers, and the computer science faculty attending the oral presentation.
Courses of Instruction

Primarily for Undergraduates

2. (0020) Concepts and Challenges of Computer Science
Removes the mystery surrounding computers and the digital world. Introduces a range of topics including the Internet and Multimedia, along with the underlying digital technology and its relevance to our society. Other topics include artificial intelligence, IT security, the economics of computing and its pervasiveness in today’s world. Analytic skills are developed through HTML and Python assignments. No prerequisites. Enrollment limited. D. L. STANFORD.

4. (0040) Introduction to Scientific Computing and Problem Solving
An introduction to computer programming and software design in a high-level language. Emphasizes fundamental techniques and strategies for solving scientific problems with computers. Illustrates abstract concepts with a wide range of exemplary applications from engineering, the sciences, and the humanities. Intended primarily for students not concentrating in computer science who want a single application-oriented programming course. No prerequisites. J. F. HUGHES.

9. (0090) First Year Seminars
In this seminar we will juxtapose contemporary and classic texts in order to ground issues and ideas, raised by contemporary computer science, in the traditions in which these issues and ideas were discussed before the advent of computers. The goal is to encourage students to construct their own philosophies about the relationship between technology and values.

(0090A) Building a Web Application
Computer applications involving web-based interfaces interacting with back-end databases are becoming common. In this course we will develop a web-based solution for a specific problem. In doing so we will study issues related to software engineering, software development, and the design, structure and implementation of web-based applications. Enrollment limited. Written permission required. S. P. REISS.

(0090B) Computers and Human Values (Science and Society 59)
In this seminar we read both contemporary and classic texts that shed light on how recent developments in computer science have changed the way we can/should/do think about ourselves, our societies and our politics. Units of the seminar are organized around the consequences of electronic communication, robotics, neuronal prosthetics, network computing, virtual realities, and computer security. Enrollment limited. Written permission required. R. B. BLUMBERG.

(0090C) Talking with Computers: A Hands-On Introduction to Computer Science
Students learn to write programs that exploit powerful computational tools. Fundamental models for thinking about computation are investigated in the process of explaining how computers, networks and modern computer applications work. Aimed at students interested in using and learning about computers whether or not they intend to major in computer science. For first year students only. Enrollment limited. Written permission required. T. L. DEAN.

15. (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, helps provide a serious introduction to the field intended for both potential concentrators and those who may take only a single course. No prerequisites. A. Van Dam.

16. (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 CS 15. Computer graphics animations are used to visualize algorithms and their performance. Prerequisite: CS 15 or written permission. J. F. Hughes.

17, 18. (0170, 0180) Computer Science: An Integrated Introduction
An introduction to computer science and computer programming. CS 17 introduces two languages, Scheme and ML, that exemplify functional programming. CS 18 introduces Java, which exemplifies object-oriented programming. Computational performance is addressed throughout: techniques for analysis of algorithms and for efficient data structures and algorithms.

Examples are drawn from such areas as language processing, arbitrary-precision arithmetic, strategy games, databases, optimization, discrete-event simulation, window managers, web client/server, route-finding, and data compression. Lab work done with assistance of TAs. Emphasis on the conceptual elegance to be found in computer science. P. Klein and U. Cetintemel.

22. (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 algebras, logic, set theory, elements of algebraic structures, graph theory, combinatorics, and probability. No prerequisites. F. Preparata.

24. (0240) Visual Thinking/Visual Computing
Visual Thinking/Visual Computing is an interdisciplinary course designed to provide a systematic grounding in both technical and theoretical areas of visual research and communication, with a focus on the key role of computer graphics. In addition to reading and writing, assignments will include visual projects, to be completed with custom-made and commercial software packages. Enrollment limited. Written permission required. A. Van Dam and A. M. Spalter.

31. (0310) Introduction to Computer Systems
Basic principles of computer organization. Begins with machine representation of data types and logic design, then explores architecture and operations of computer systems, including I/O, pipelining, and memory hierarchies. Uses assembly language as an intermediate abstraction to study introductory operating system and compiler concepts. Prerequisite: CS 15 or 18. P. Van Hentenryck.

32. (0320) Introduction to Software Engineering
Advanced programming techniques including Java, threads, web-applications, user interfaces and XML. Covers software design including object-oriented design, systems design, web application design and user interface design. Software engineering including modeling, analysis, testing, debugger reuse, the software lifecycle, tools and project management. Prerequisite: CS 16 or 18; 22 is recommended. S. P. Reiss.
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36. (0360) Introduction to Systems Programming
This course teaches competency in systems-level programming using C and C++. Students learn how to produce code that is not only correct but is also efficient, testable, maintainable, robust, and secure. Basic software-design techniques are taught, along with the use of common tools. No prior knowledge of C or C++ is assumed. Prerequisite: CS 31. T. W. DOEPPNER.

51. (0510) Models of Computation
Introduces a broad range of theoretical topics in computer science including the finite-state machine and regular languages, the pushdown automaton and context-free languages, the Turing machine and phase-structure languages, and the NP-complete complexity class. Fundamental limits on computation are developed. Prerequisite: CS 22. E. CHARNIAK.

92. (0920) Educational Software Seminar (Education 89)
Students work in teams to create instructional software for local classrooms based on specifications from working teachers. During the semester we read, discuss, and write about texts that address the purpose, design production and evaluation of educational software, electronically-mediated curriculum, and other educational technologies. Enrollment limited. Written permission required. R. B. BLUMBERG.

For Undergraduates and Graduates

123. (1230) Introduction to Computer Graphics
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. Prerequisite: CS 16 or 18; either CS 32 or 36 is strongly recommended. Students who don't know C++ should take the minicourse offered during the first week of the semester. MA 52 helpful. A. VAN DAM.

125. (1250) Introduction to Computer Animation (Visual Art 180)
Introduction to 3D computer animation production including scriptwriting, production planning, modeling, animation, lighting, compositing, and 2D effects. Students work independently to master animation exercises, then in groups to create a polished short animation. Emphasis is on in-class critique of ongoing work, which is essential for learning the cycle of evaluating work, determining improvements, and implementing them for further evaluation. Enrollment limited. Written permission required. B. J. MEIER.

126. (1260) Introductory Compiler Construction
Lexical analysis, syntactic analysis, semantic analysis, code generation, code optimization, translator writing systems. Prerequisites: CS 22 and either 32 or 36; 51 is recommended. S. P. REISS.

127. (1270) Database Management Systems
Introduction to database structure, organization, languages, and implementation. Relational and object-relational models. 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: CS 22 and 31. S. B. ZDONIK.

128. (1280) Intermediate 3D Computer Animation (Visual Art 180)
Continues work begun in CS 125 with deeper exploration of technical and artistic aspects of 3D computer animation including more sophisticated shading and lighting methods and character modeling, rigging, and animation. After a series of individual exercises, students, working alone or in pairs, create a finished animation scene. Emphasis is on in-class
critique of ongoing work. Prerequisite: CS 125. Enrollment limited. Written permission required. B. J. MEIER.

137. (1370) *Virtual Reality Design for Science*
Explores the visual and human-computer interaction design process for scientific applications in Brown’s immersive virtual reality Cave. Joint with RISD. Computer Science and design students learn how to work together effectively; study the process of design; learn about scientific problems; create designs applications; critique, evaluate, realize and iterate designs; and demonstrate final projects. Enrollment limited. Written permission required. D. H. LAIDLAW.

138. (1380) *Networked Information 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: CS 32 or 36. U. CETINTEMEL.

141. (1410) *Introduction to Artificial Intelligence*
Theoretical and practical approaches to designing intelligent systems. Example tasks range from game playing to hardware verification. Core topics include knowledge representation, search and optimization, and reasoning. Application areas include natural language processing, machine vision, or machine learning. Prerequisites: CS 31 and 51. M. SELLMANN.

143. (1430) *Introduction to 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; tracking and motion estimation. No prerequisites but some background in basic linear algebra, calculus, and probability is assumed. M. J. BLACK.

146. *Introduction to Computational Linguistics*  
(Cognitive and Linguistic Sciences 136)
Interested students should register for Cognitive and Linguistic Sciences 136.

148. (1480) *Building Intelligent Robots*
Addresses the problem of controlling physical systems that operate in dynamic, unpredictable environments. Students, in pairs or individually, build and program mobile and articulated robots to perform simple tasks, culminating in more sophisticated projects. Examines major paradigms of robot programming and architectures for building perception, control, and learning systems for intelligent robots. Prerequisite: CS 15, 17, or written permission required. CS 141 and 123 recommended. O. C. JENKINS.

149. (1490) *Introduction to Combinatorial Optimization*
This course covers the algorithmic aspects of optimizing decisions in fully observable, non-changing environments. Students are introduced to state-of-the-art optimization methods such as linear programming, integer programming, local search, and constraint programming. Prerequisites: Basic linear algebra: AM 34, MA 52, or MA 54; ability to program at the level of CS 32 or CS 36 (C++ is used in the course); or permission of the instructor. M. SELLMANN.
151. (1510) **Introduction to Cryptography and Computer Security**
This course studies the tools for guaranteeing safe communication and computation in an adversarial setting. We develop notions of security and give provably secure constructions for such cryptographic objects as ciphers, signature schemes and pseudorandom generators. We also review the principles for secure system design. Prerequisites: CS 22 and 51. A. LYSYANSKAYA.

155. (1550) **Probabilistic Methods in Computer Science**
Introduction to probability theory in computer science, in particular randomized algorithms and probabilistic analysis of algorithms. Introduces basic probability theory and presents applications of randomized and probabilistic analysis techniques in areas such as combinatorial optimization, data structures, communication, and parallel computation. Assumes no prior knowledge of probability theory. Prerequisite: CS 22 or equivalent. CS 157 recommended but not required. E. UPFAL.

157. (1570) **Design and Analysis of Algorithms**
A single algorithmic improvement can have a greater impact on our ability to solve a problem than ten years of incremental improvements in CPU speed. We study techniques for designing and analyzing algorithms. Typical problem areas addressed include numerical computing, hashing, searching, dynamic programming, graph algorithms, network flow, and string parsing and matching. Prerequisites: CS 16 or 18, and 22. C. KENYON.

159. (1590) **Introduction to Computational Complexity**
Introduction to the following topics: parallel computation on the mesh, hypercube, and PRAM; serial and parallel space and time complexity classes; the circuit-size complexity measure; space-time tradeoffs; space and I/O time tradeoffs; and tradeoffs between area and parallel time in the VLSI model of computation. Prerequisite: CS 51. J. E. SAVAGE.

160. (1600) **Introduction to Embedded and Real-Time Software**
Comprehensive introduction to the design and implementation of software for programmable embedded computing systems, those enclosed in devices such as cellular phones, game consoles, and car engines. Includes the overall embedded real-time software design and development processes, as well as aspects of embedded hardware and real-time, small-footprint operating systems. Major project component. Prerequisites: CS 32 or 36. Enrollment limited. Written permission required. S. P. REISS and J. JANNOTTI.

161. (1610) **Building High-Performance Servers**
In depth study of modern server design. Considers architectures for building high-performance, robust, scalable, and secure network servers. We will consider all aspects of “mission-critical” servers. Topics include multithreaded and asynchronous programming techniques, database access, performance profiling, security, and redundancy. Teams will build significant projects. Prerequisite: CS 32 or 36. CS 167 or 168 is recommended. J. JANNOTTI.

166. (1660) **Introduction to Computer Systems Security**
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 (t governments, 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: CS 16 or CS 18 R. TAMASSIA.
167. (1670) Operating Systems
The basic principles of operating systems. Part I: fundamental concepts including: multithreaded programming and concurrency, dynamic storage allocation and liberation, linkers and loaders, file systems, and virtual memory. Covers actual systems including Solaris, Linux, and Windows XP. Part II: operating-system support for distributed systems, including computer communication protocols, remote procedure call protocols, computer security, and distributed file systems. Prerequisite: CS 32 or 36. T. W. DOEPPNER.

168. (1680) Computer Networks
Covers the technologies supporting the Internet, from Ethernet and WiFi through the routing protocols that govern the flow of traffic and the web technologies that are generating most of it. A major concern is understanding the protocols used on the Internet: what the issues are, how they work, their shortcomings, and what improvements are on the horizon. Prerequisite: CS 32, 36 or consent of instructor. J. JANNOTTI.

169. (1690) Operating Systems Laboratory
Half-credit course intended to be taken with CS 167. Students individually write a simple operating system in C. Serves to reinforce the concepts learned in 167 and provides valuable experience in systems programming. Corequisite: CS 167. Half credit. T. W. DOEPPNER.

173. (1730) Introduction to 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: CS 16 or 18. Preferred: CS 22, 31 and 51, or instructor’s permission. Ph.D. students can request a reading supplement that earns 200-level graduate credit. S. KRISHNAMURTHI.

176. (1760) Introduction to 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. M. P. HERLIHY.

178. (1780) Parallel and Distributed Programming
Covers the practical aspects involved in designing, writing, tuning, and debugging software designed to run on parallel and distributed systems. Topics might include client-server computation, threads, networks of workstations, message passing, shared memory, partitioning strategies, load balancing, algorithms, remote procedure call, and synchronization techniques. Prerequisites: CS 22 and either 32 or 36; 51 recommended. S. P. REISS.

181. (1810) Computational Molecular Biology
Processing molecular biology data (DNA, RNA, proteins) has become central to biological research and a challenge for science research. Important objectives are molecular sequence analysis, recognition of genes and regulatory elements, molecular evolution, protein structure, comparative genomics. This course models the underlying biology in the terms of computer science and presents the most significant algorithms of molecular computational biology. Prerequisites: CS 16 or 18, and 22, or consent of instructor. F. PREPARATA.
185. **Information Theory** (Applied Mathematics 171, Engineering 151)
Interested students should register for Applied Mathematics 171.

190. (1900) **Software System Design**
Students working in teams of ten implement significant software applications and learn and practice techniques of project management, specification, analysis, design, coding, documentation, testing, maintenance, and communication. Prerequisite: CS 32 or 36. D. H. LAIDLAW.

193, 194. (1970) **Senior Seminar**
Independent study in various branches of Computer Science.

195. (1950) **Special Topics in Computer Science**
First-semester course in various branches of computer science. Specific topics to be determined at the beginning of each semester.

196. (1950) **Special Topics in Computer Science**
Second-semester course in various branches of computer science. Specific topics to be determined at the beginning of each semester.

**Primarily for Graduates**

220. **3D Photography and Geometry Processing** (Engineering 292)
Interested students should register for the appropriate section of Engineering 292.

224. (2240) **Interactive Computer Graphics**
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: CS 123 and either 32 or 36. J. F. HUGHES.

227. (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: CS 127. S. B. ZDONIK.

231. (2310) **Human Factors and User Interface Design**
Covers current research issues involving the implementation, evaluation and design of user interfaces, while also providing a basic background in the fundamentals of user interface evaluation, programming, tools, and techniques. A possible topic is programming and designing device-independent interfaces. Previous topics have included the development of pervasive internet-based interfaces and software visualization. Prerequisite: Consent of instructor. S. P. REISS.

233. (2330) **Programming Environments**
Programming tools; control and data integration; software understanding and debugging; environments for parallel and distributed programming; reverse engineering; configuration management and version control and debugging. Emphasis on current research areas. Prerequisite: consent of instructor. S. P. REISS.

234. (2340) **Software Engineering**
Topics in the design, specification, construction and validation of programs. Focus will be on tools to support each of these stages. Course will pay special attention to the concerns raised by the properties of modern software systems including distribution, security,
component-based decomposition and implicit control. Prerequisite: CS 190 or other upper-level systems coursework. S. KRISHNAMURTHI and S. P. REISS.

237. (2370) **Interdisciplinary Scientific Visualization**
The solution of scientific problems using computer graphics and visualization. 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. Examples include interactive software systems, immersive CAVE applications, or new applications of existing visualization methods. Prerequisites: all: programming experience; CS students: graphics experience; others: problem ideas. D. H. LAIDLAW.

241. (2410) **Statistical Models in Natural-Language Understanding**
Various topics in computer understanding of natural language, primarily from a statistical point of view. Topics include: hidden Markov models, word-tagging models, probabilistic context-free grammars, syntactic disambiguation, semantic word clustering, word-sense disambiguation, machine translation and lexical semantics. Prerequisite: CS 141. E. CHARNIAK.

243. (2430) **Topics in Machine Learning**
Machine learning from the artificial intelligence perspective, with emphasis on empirical validation of learning algorithms. Different learning problems are considered, including concept learning, clustering, speed-up learning, and behavior learning. For each problem a variety of solutions are investigated, including those from symbolic AI, neural and genetic algorithms, and standard statistical methods. Prerequisite: CS 141 or familiarity with basic logic and probability theory. T. DEAN.

244. (2440) **Game-Theoretic Artificial Intelligence**
This course surveys recent developments in an emerging area known as game-theoretic artificial intelligence (AI), which incorporates fundamental principles of game theory into AI. Research in this area is motivated by game-theoretic applications, such as auction design and voting, as well as AI application areas, such as multiagent systems. The course material is theoretical, experimental, and empirical. Prerequisite: Consent of instructor. A. R. GREENWALD.

250. (2500) **Topics in Advanced Algorithms**
Typically, an algorithm solves one problem, whereas a well designed data structure can help implement algorithms for a wide variety of problems. We will study the design, analysis and implementation of advanced data structures. Focus is on data structures that are fast, both theoretically and empirically. Prerequisite: CS 157 or the equivalent.

252. (2520) **Computational Geometry**
Algorithms and data structures for fundamental geometric problems in two and three dimensions. Topics include point location, range searching, convex hull, intersection, Voronoi diagrams, and graph drawing. Applications to computer graphics, circuit layout, information visualization, and computer-aided design are also discussed. Prerequisite: CS 157 or written permission. R. TAMASSIA.

253. (2530) **Design and Analysis of Communication Networks**
A theory seminar focusing on algorithmic and combinatorial issues related to the design and analysis of communication networks for parallel and distributed systems. Topics include packet routing, circuit switching, distributed shared memory, fault tolerance, and more. Prerequisite: CS 155, 157, or equivalent. E. UPFAL.
254. (2540) **Advanced Probabilistic Methods in Computer Science**
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: CS 155. Recommended but not required: CS 157. E. UPFAL.

255. (2550) **Parallel Computation: Models, Algorithms, Limits**
The theoretical foundations of parallel algorithms. Analysis of the most important models of parallel computation, such as directed-acyclic computation graphs, shared memory and networks, and standard data-exchange schemes (common address space and message-passing). Algorithmic techniques with numerous examples are cast mostly in the data-parallel framework. Finally, limitations to parallelizability (P-completeness) are analyzed. The content of the course is likely to change as technology evolves. Written permission required for undergraduates. F. PREPARATA.

256. (2560) **Applied Theory of Computation**
Advanced topics in theoretical computer science are chosen from the following list: parallel computation, time and space complexity classes, circuit complexity, I/O complexity, VLSI computation and nano-computing. J. E. SAVAGE.

257. (2570) **Introduction to Nanocomputing**
Several nanoscale technologies employing materials whose smallest dimension is on the order of a few nanometers are expected to replace lithography in the design of chips. We give an introduction to computational nanotechnologies and explore problems presented by their stochastic nature. Nanotechnologies based on the use of DNA and semiconducting materials will be explored. Prerequisite: CS 51. J. E. SAVAGE.

258. (2580) **Solving Hard Problems in Combinatorial Optimization: Theory and Systems**
The theory of combinatorial optimization and how it is embodied in practical systems. Explores issues encountered in implementing such systems. Emphasizes the wide variety of techniques and methodologies available, including integer programming, local search, constraint programming, and approximation algorithms. Problems addressed may include: scheduling, coloring, traveling salesman tours, and resource allocation. Prerequisites: CS 32 or 36, and basic knowledge of linear algebra. P. VAN HENTENRYCK.

273. (2730) **Programming Language Theory**
Theoretical models for the semantics of programming languages and the verification of programs. Topics include operational semantics, denotational semantics, type theory and static analyses. Prerequisite: CS 173. S. KRISHNAMURTHI.

275. (2750) **Topics in Parallel and Distributed Computing**
CS275 is a graduate seminar that will consider an advanced topic (to be determined) in distributed computing. May be repeated for credit. Written permission required for undergraduates. M. P. HERLHY.

295. (2950) **Special Topics in Computer Science**

296. (2950) **Special Topics in Computer Science**

297, 298. (2980) **Reading and Research**

299. (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. No course credit.
Development Studies

The Undergraduate Concentration in Development Studies is designed to provide a comparative perspective on the long-term social, political, and economic changes which have accompanied industrialization and the growth of the modern state in Asia, Africa, Latin America and the historical experience of European countries. For details see http://www.brown.edu/Administration/Registrar/concentration.html.

The A.M. Degree in Development Studies is designed to suit the needs of individual candidates while meeting the interdisciplinary and comparative objectives of the degree. Normally the program will consist of a minimum of eight courses taken from the instructional offerings of departments and centers which provide advanced instruction on development issues. These will include DS 198, SO 215, EC 151, and AN 204 (or equivalent courses as approved by the program director), as well as a carefully chosen set of courses involving different disciplinary perspectives on development and including at least two additional 200-level courses. All candidates will write a thesis. Students will usually have a reading and speaking competence in a foreign language and are expected to acquire language skills as needed for research.

The Concurrent A.B./A.M. Degree. Students may combine work toward an A.B. in Development Studies while simultaneously working towards the A.M. In this integrated A.B./A.M. degree, candidates will write a single thesis and take a minimum of six courses in addition to those required for the A.B. These must include those specified for the A.M. degree which have not previously been taken. A preliminary version of the A.M. thesis will satisfy the requirements for the A.B. degree. See page 114. The program also welcomes applications to the 5th Year Masters Program, in which the A.M. Degree work follows awarding of the A.B. Degree.

Both the undergraduate concentration and the A.M. program are sponsored by the Watson Institute for International Studies.

Courses of Instruction

For Undergraduates and Graduates

142. International Political Economy of Development
(Political Science 142, International Relations 132)
Interested students should register for Political Science 142.

180. Senior Seminars

The Political Economy of Economic Reform in Developing Countries
(International Relations 180)
Interested students should register for International Relations 180.

Power, Segregation and Mobility Under Late Portuguese Colonialism and Its Aftermath (Portuguese and Brazilian Studies 160, Anthropology 124, International Relations 180)
Interested students should register for Portuguese and Brazilian Studies 160.

States, International Organizations, and Firms in the Global Economy
(Sociology 187, International Relations 180)
Interested students should register for Sociology 187.
The Struggle for Human Rights in Brazil: Democracy without Citizenship
(Latin American Studies 151, International Relations 180,
Portuguese and Brazilian Studies 160)
Interested students should register for Latin American Studies 151.

185. Anthropology and International Development: Ethnographic Perspectives on Poverty and Progress (Anthropology 185)
Interested students should register for Anthropology 185.

190, 191. (1990) Concentration Special Project
An integrative seminar designed for concentrators working on senior theses. Others with comparable backgrounds may enroll with written permission. Begins with a review of theoretical and methodological literature on development studies. Written and oral presentations of thesis research will be the central focus of the latter part of the course.

Primarily for Graduates

200. (2000) Theory and Research in Development I (Political Science 223,
Sociology 200)
This course explores a range of substantive debates in development by drawing on empirical and theoretical work from the disciplines of economics, political science, sociology and anthropology. The course aims to provide students with a broad understanding of current debates and research on development, evaluate both the differences and complementarities in disciplinary perspectives and develop a toolkit of interdisciplinary analytic skills that can be applied to concrete research questions. P. G. HELLER and R. O. SNYDER.

201. (2010) Theory and Research in Development II (Political Science 224,
Sociology 200)
This course explores a range of substantive debates in development by drawing on empirical and theoretical work from the disciplines of economics, political science, sociology and anthropology. The course aims to provide students with a broad understanding of current debates and research on development, evaluate both the differences and complementarities in disciplinary perspectives and develop a toolkit of interdisciplinary analytic skills that can be applied to concrete research questions. P. G. HELLER and R. O. SNYDER.

299. (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. No course credit. THE STAFF.

Lefschetz Center for Dynamical Systems

The Lefschetz Center for Dynamical Systems was established by Solomon Lefschetz and J. P. LaSalle at Brown University in the fall of 1964 to carry out a program of basic research and advanced study in the theory and applications of differential equations, dynamical systems and stochastic processes and systems theory. Within its areas, it is one of the leading centers in the world. Areas of application include theoretical mechanics, oceanography, nonlinear optics, plasma physics, stochastic control, and communication
theory. Permanent members of the center serve on faculties of the Division of Applied Mathematics, the Division of Engineering, and the Department of Mathematics.

The center attracts distinguished visiting scientists and promising young scientists from the United States and abroad, and has an extensive postdoctoral program.

Members of the center have been supported in their research efforts by the Air Force Office of Scientific Research, the United States Army Research Office, the Office of Naval Research, the National Science Foundation and NASA.

The center was dedicated to the memory of Solomon Lefschetz in August, 1974.

For additional information please visit the Center’s website at: http://www.dam.brown.edu/lcds/.

East Asian Studies

Professors Bickford, Grieder (Emeritus), Lattimore (Emeritus), Levy, McClain, Rabson (Emeritus), Roth, Wrenn (Emeritus); Associate Professors Smith, Viswanathan, Yamashita, H. Wang, L. Wang; Assistant Professor Swislocki; Senior Lecturers Jackson, Zhang; Lecturers Hu, Tajima, Y. Wang; Joukowsky Postdoctoral Fellow A. Hsu; Teaching Associates Wilkner, Yasuhara.

In addition to the faculty members listed above, who hold full or joint appointments in the Department of East Asian Studies, the Curator of the East Asian Collection, in cooperation with colleagues in the Watson Institute for International Studies, faculty in the Departments of Anthropology, Comparative Literature, Economics, History, History of Art and Architecture, Political Science, Religious Studies, Sociology, and Urban Studies offer courses that contribute directly to the program in East Asian Studies, as listed below (see appropriate departmental listings for fuller descriptions).

Undergraduate Program

For a complete description of the East Asian Studies standard concentration program leading to the bachelor’s degree, please visit:
http://www.brown.edu/Departments/East_Asian_Studies/ or
http://www.brown.edu/Administration/Registrar/concentration.html.

Courses of Instruction

Chinese

Primarily for Undergraduates

10-20. (0100-0200) Basic Chinese

15-25. (0150-0250) Advanced Beginning Chinese
A yearlong intensive course designed for students with some prior knowledge of Chinese. Designed to enhance listening, speaking, reading, and writing skills. No credit for first semester alone. Five classroom meetings weekly. Placement interview required. Enrollment limited. Y. Wang.
30, 40. (0300, 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: CI 20 or permission of instructor. Enrollment limited. L. Hu.

50, 60. (0500, 0600) 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. Three classroom meetings and one discussion section weekly. Prerequisite: CI 40 or permission of instructor. Enrollment limited. Y. Wang.

70, 80. (0700, 0800) Advanced Modern Chinese II
This course is designed to enhance the Chinese proficiency of those who have taken Advanced Modern Chinese I 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. L. Wang.

91. (0910) Chinese for Special Topics
For students who are ready to use Chinese in a field of interest. Courses will introduce a basic approach to doing research by using Chinese on various disciplines related to East Asian cultures. Students will read and discuss Chinese texts on specific topics and obtain general background information on topics from reading source materials written in English. Prerequisite CI 60 or equivalent.

(0910A) Academic Chinese I
This course trains students to read texts in order to improve language skills and acquire the ability to do research in academic fields. Through reading and discussing literature, newspaper and magazine articles, and academic writings, students will gain a better understanding of traditional modern China. Prerequisite: CI 80 or permission of the instructor. M. Zhang.

(0910B) Classical Chinese
This course is an introduction to the Classical Chinese language. Speaking, reading, writing, and grammar are taught. S/NC. The Staff.

92. (0920) Chinese for Special Topics
For students who are ready to use Chinese in a field of interest. Courses will introduce a basic approach to doing research by using Chinese on various disciplines related to East Asian cultures. Students will read and discuss Chinese texts on specific topics and obtain general background information on topics from reading source materials written in English. Prerequisite CI 60 or equivalent.

(0920A) Academic Chinese II
This course trains students to read texts in order to improve language skills and acquire the ability to do research in academic fields. Through reading and discussing literature, newspaper and magazine articles, and academic writings, students will gain a better understanding of traditional and modern China. Prerequisite: CI 80 or permission of the instructor. M. Zhang.

(0920C) Chinese Culture and Society in Discourse
For students at the advanced level to enhance their analytical, debating and presentational skills in Chinese. Through an analysis of language and rhetoric collected from TV talk shows, movies and literary essays of contemporary Chinese
authors, students will learn how to structure cohesive, paragraph-length discussions in a cross-cultural context both verbally and in writing. Prerequisite: CI 60 or equivalent. S/NC. Y. Wang.

For Undergraduates and Graduates

104. (1040) Modern Chinese Literature
Introduces students to the most representative writers in 20th century China. Emphasizes textual and historical analyses. Major issues include Westernization, nationalism, revolution, class, gender, and literary innovations. Designated primarily as a literature course, rather than language class, and conducted entirely in Mandarin Chinese. Prerequisite: CI 80 or permission of instructor. L. Wang.

191. (1910) Independent Study
Reading materials for research in Chinese. Staff.

192. (1910) Independent Study
Reading materials for research in Chinese. Staff.

East Asian Studies

Primarily for Undergraduates

4. Introduction to Chinese Art and Culture
   (History of Art and Architecture 4)
   Interested students should register for History of Art and Architecture 4.

5. Shape of Good Fortune (History of Art and Architecture 5)
   Interested students should register for the appropriate section of History of Art and Architecture 5.

11. Ancient China: Art and Archaeology
   (History of Art and Architecture 11)
   Interested students should register for History of Art and Architecture 11.

20. Chinese Scholar Ink Painting
   (History of Art and Architecture 20)
   Interested students should register for History of Art and Architecture 20.

21. Chinese Painting during the Song Dynasty
   (History of Art and Architecture 21)
   Interested students should register for History of Art and Architecture 21.

41. Introduction to East Asian Civilization: China (History 41)
   Interested students should register for History 41.

42. Introduction to East Asian Civilization: Japan (History 42)
   Interested students should register for History 42.

51. Literary Creation and Discourse
   The World of Lyric Poetry (Comparative Literature 51)
   Interested students should register for Comparative Literature 51.

61. The Functions of Literature
   Banned Books (Comparative Literature 61)
   Interested students should register for Comparative Literature 61.

71. Literature and its History
308 / Divisions, Departments, Centers, Programs, and Institutes

The Far Side of the Old World: Perspectives on Chinese Culture (Comparative Literature 71)
Interested students should register for the appropriate section of Comparative Literature 71.

Historical Survey of Japanese Literature (Comparative Literature 71)
Interested students should register for the appropriate section of Comparative Literature 71.

81. Ideas, Myths and Themes

Desire and the Marketplace (Comparative Literature 81)
Interested students should register for Comparative Literature 81.

Tales and Talemakers of the Non-Western World (Comparative Literature 81)
Interested students should register for Comparative Literature 81.

88. (0880) Issues in the History of Religions

Great Contemplative Traditions of Asia (Religious Studies 88)
Interested students should register for Religious Studies 88.

The Foundations of Chinese Religion (Religious Studies 88)
Interested students should register for Religious Studies 88.

97. Seminars in East Asian Studies

Tokyo Modern (History 97)
Interested students should register for History 97.

History and Image in Modern Japan: Geisha (History 97)
Interested students should register for History 97.

History and Memory in China (History 97)
Interested students should register for History 97.

For Undergraduates and Graduates

107. (1070) China Modern: An Introduction to the Literature of Twentieth-Century China (Comparative Literature 181)
A general introduction to modern and contemporary Chinese literature from the May Fourth Movement to contemporary Taiwan and the People's Republic of China. Emphasizes reading of literary works in relation to topics such as cultural tradition, modernity, nationalism, revolution, class, gender, region, cultural commodification, and literary innovations. Readings in English. No previous knowledge of Chinese required. L. Wang.

119. Ethnonationalism: The Asian Arena (Anthropology 120)
Interested students should register for Anthropology 120.

122. (1220) Topics in East Asian Art

The Archaeology of the Afterlife in Early Imperial China (History of Art and Architecture 104)
Interested students should register for History of Art and Architecture 104.

(1220A) Exploring the Early Silk Road (History of Art and Architecture 104)
In 138 BCE, a young Chinese envoy became the first person in Chinese history to traverse the perilous overland route commonly known as the Silk Road. We will study the different cultures, religions, and artistic traditions that flourished along the Silk Road from the second-century BCE to the third-century CE. H. A. Hsu.
137. *Issues in the Philosophy and Theory of Religion*

*Buddhist Psychology* (Religious Studies 137)
Interested students should register for Religious Studies 137.

140. *Topics in Urban Economic Policy* (Urban Studies 142, Economics 142)
Interested students should register for Urban Studies 142.

142. *Gigantic Fictions* (Comparative Literature 142)
Interested students should register for the appropriate section of Comparative Literature 142.

143. *Studies in Poetry*

*Critical Approaches to Chinese Poetry* (Comparative Literature 143)
Interested students should register for Comparative Literature 143.

*Leaves of Words: Japanese Poetry and Poetics* (Comparative Literature 143)
Interested students should register for Comparative Literature 143.

146. (1460) *Reading Japan: Postwar Literature and Society*
Examines works of postwar Japanese literature on four critical issues: World War II in retrospect and the continuing military presence; minorities and other outsiders; the status of women, and pressures and disruptions in a “high-growth” economy. Students read fiction and poetry along with background essays in history and the social sciences that provide contexts for literary works. Written permission for first-year students. STAFF.

149. *International Relations of East Asia* (Political Science 150)
Interested students should register for Political Science 150.

151. *History of Modern China I*

*China’s Late Empires* (History 151)
Interested students should register for the appropriate section of History 151.

152. *History of Modern China II*

*China Since 1936* (History 152)
Interested students should register for the appropriate section of History 152.

Interested students should register for History 154.

155. *The Social History of Modern Japan* (History 156)
Interested students should register for History 156.

156. *Archaeology of Asian Civilizations* (Anthropology 156)
Interested students should register for Anthropology 156.

157. *Japan’s Pacific War* (History 157)
Interested students should register for History 157.

159. *The Economy of China since 1949* (Economics 159)
Interested students should register for Economics 159.

180. *Topics in East Asian Studies*

*International Political Economy of Asia-Pacific* (International Relations 180)
Interested students should register for International Relations 180.
Japanese Foreign Policy and International Relations (International Relations 180)
Interested students should register for International Relations 180.

181. Studies in the Literature of Ideas
From Bluestockings to Yellow Cabs (Comparative Literature 181)
Interested students should register for Comparative Literature 181.
The Paternalistic Thriller and other Studies in Colonial Fiction
(Comparative Literature 181)
Interested students should register for Comparative Literature 181.
Travel and Tourism Through the Ages (Comparative Literature 181)
Interested students should register for Comparative Literature 181.

187. Topics in History (History 197)
Interested students should register for the appropriate section of History 197.

188. (1880) Directed Readings in Chinese Thought
Foundational Works of the Daoist Tradition: Chuang Tzu (Religious Studies 188)
Entails a careful reading of the entire texts of the Chuang Tzu in translation. Secondary sources on the philosophy and textual criticism of the book - drawn from the writing of A.C. Graham, Liu Hsiao-Kan, P.J. Ivanhoe, Mair, Roth, and others - are also read. Seminar format. Prerequisites: RS 188.18 or RS 188.23. Enrollment limited. Written permission required. H. D. ROTH.

(1880A) Influence and Innovation in Early Daoism: Lao Tzu and Huai-nan Tzu
(Religious Studies 188)
This seminar will approach early Taoist thought through the study of important essays from the Han dynasty compendium, the Huai-nan Tzu and will discuss the historical and philosophical origins of Lao Tzu’s Tao te ching, heretofore acknowledged as the foundational text of the Taoist tradition. Prerequisite: RS 88.18 or RS 88.23. Enrollment limited. Written permission required. H. D. ROTH.

The Theory and Practice of Buddhist Meditation (Religious Studies 188)
Interested students should register for Religious Studies 188.

191. (1910) Independent Study
Sections numbers vary by instructor. Please see the registration staff for the correct section number to use when registering for this course. STAFF.

192. (1910) Independent Study
Sections numbers vary by instructor. Please see the registration staff for the correct section number to use when registering for this course. STAFF.

193-194. (1930-1940) Reading and Writing of the Honors Thesis
Prior admission to honors candidacy required. STAFF.

195. Portuguese Navigations and Encounters with Civilizations
European Empires in the East (1500-1800) - A Comparative Analysis
Interested students should register for the appropriate section of History 195.

197. Topics in East Asian Studies
Atomic Histories: Trinity, Hiroshima, Nagasaki (History 197)
Interested students should register for History 197.
Imaging Modern Japan (History 197)
Interested students should register for History 197.
Shanghai: Advertiser’s Paradise? (History 197)
Interested students should register for History 197.

Shanghai Under Communism (History 197)
Interested students should register for History 197.

199. (1990) Senior Reading and Research: Selected Topics

Japanese

Primarily for Undergraduates

10-20. (0100-0200) Basic Japanese
Introduction to Japanese language. Emphasizes the attainment of good spoken control of Japanese and develops a foundation of literacy. No prerequisites. A year course. No credit for first semester alone. Enrollment limited. Written permission required. K. YAMASHITA.

Designed for those who have had high-school Japanese or other Japanese language experience. An opportunity to organize previous knowledge of Japanese and develop a firm basis of spoken and written Japanese. Prerequisite: Reading and writing knowledge of Hiragana, Katakana, and some Kanji. Placement test required. No credit for first semester alone. Enrollment limited. Written permission required. H. TAJIMA.

30, 40. (0300, 0400) 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: JA 10–20 or equivalent. Enrollment limited. Y. I. JACKSON.

50, 60. (0500, 0600) Advanced Japanese
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: JA 30, 40 or equivalent. H. TAJIMA.

70, 80. (0700, 0800) Advanced Readings in Japanese
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: JA 50, 60 or equivalent. Y. I. JACKSON.

91. (0910) Japanese for Special Topics
For students who are ready to use Japanese in a field of interest. Courses will introduce a basic approach to doing research by using Japanese on various disciplines related to East Asian cultures. Students will read and discuss Japanese texts on specific topics and obtain general background information on topics from reading source materials written in English. Prerequisite: JA 60 or equivalent.

(0910A) Classical Japanese
This is an introductory course to pre-modern Japanese. It will explore the lifestyle and philosophy of samurai in the 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. K. YAMASHITA.
(0910B) Japanese Cities: Venice in Tokyo and Merchants’ Houses in Kyoto
Goal of the course is to develop ability to use Japanese source materials for research in social sciences. Course covers lifestyles in two contrasting cities, Tokyo and Kyoto. Topics include topography, environmental issues, houses, urban life-styles, and natural habitation. We will ask questions: why houses are so compact in cities; why crows and boars pick on garbage, etc. Information sources are films, videos, and websites in addition to textbooks. K. YAMASHITA.

92. (0920) Japanese for Special Topics
For students who are ready to use Japanese in a field of interest. Courses will introduce a basic approach to doing research by using Japanese on various disciplines related to East Asian cultures. Students will read and discuss Japanese texts on specific topics and obtain general background information on topics from reading source materials written in English. Prerequisite: JA 60 or equivalent.

(0920A) Business Japanese
This course is designed to teach post-advanced level Japanese language with the focus on effective oral and written communication in business situations. This course emphasizes vocabulary build-up in the area of business and Economics, use of formal expressions, business writing, and conversation and presentation skills, as well as familiarizes students with Japanese corporate culture, protocol, and interpersonal relationships. Prerequisite: JA 60 or equivalent. Y. I. JACKSON.

(0920B) Modern Japanese Poetry
This course is an introduction to modern Japanese poetry, which includes pre-war and post-war poetic forms. We will explore issues of modernity and identity as well as poetics through a close examination of several poems each week. We will work on translations of the poems as part of the exercise of reading. The course includes reading background information in English. No prerequisites required. STAFF.

For Undergraduates and Graduates

101. (1010) Readings in Contemporary Japanese Fiction
Reading and discussion of short stories and fiction written after 1945. Intended to acquaint students with a wide range of works and authors popular in present-day Japan and to place them in Japanese literary history through reading analyses by Japanese critics. Prerequisite: JA 70, 80 or equivalent. STAFF.

131. (1310) Japanese Linguistics: Communication and Understanding Utterances
Introduces a linguistic analysis of Japanese language to attain an overview structure and a foundation for understanding how grammar relates to various modes of communication. Topics include discourse analysis, pragmatics, communicative intention, communication strategies, and intercultural communication gaps. Linguistic data is drawn from films and fiction. Prerequisite: basic knowledge of Japanese grammar, vocabulary, and linguistics. K. YAMASHITA.

191. (1970) Independent Study
Reading materials for research in Japanese. STAFF.

192. (1970) Independent Study
Reading materials for research in Japanese. STAFF.
Korean

Primarily for Undergraduates

10-20. (0100-0200) 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. No credit for first semester alone. Six classroom hours per week. No prerequisite. H. WANG.

30, 40. (0300, 0400) 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. Four classroom hours per week. Prerequisite: KO 10–20 or equivalent. H. WANG.

92. (0920) Korean for Special Topics
For students who are ready to use Korean in a field of interest. Courses will introduce a basic approach to doing research by using Korean on various disciplines related to East Asian cultures. Students will read and discuss Korean texts on specific topics and obtain general background information on the topics from reading source materials written in English. Prerequisite KO 40 or equivalent.

(0920A) Korean Culture and Society
Develops oral proficiency in Korean language through a variety of readings on Korean culture and society. By reading about and discussing important aspects and core issues of Korea, students enhance their speaking competence and cultural understanding. Prerequisites: KO 30 and 40. H. WANG.

For Undergraduates and Graduates

191. (1970) Independent Study
Reading materials for research in Korean. STAFF.

192. (1970) Independent Study
Reading materials for research in Korean. STAFF.

Economics

Professors Borts, Foster, Galor, Henderson, Howitt, Kleibergen, Lancaster, Levine, Louy, Munshi, Palacios-Huerta, Pitt, Putterman, Serrano, Vohra, Weil, Welch; Associate Professors, Feldman, Tyler; Assistant Professors Aizer, Baum-Snow, Dal Bo, Knight, Lester, Mavroeidis, Qian, Qiu, Rubinstein, Turner; Adjunct Assistant Professor Yasuhara; Adjunct Lecturer Carkovic; Senior Lecturer Friedberg; Professors Emeritus Beckmann, Page, Ryder, Schupack, Stein.

Undergraduate Programs

The main objective of the undergraduate programs is to develop understanding of why economies perform the way they do; specifically, to explain how organizations in society use scarce resources and distribute the resulting product. The program examines the
behavior of markets, both in a domestic and international context, and analyzes the effects of government actions. The undergraduate courses emphasize both the development of the tools of theoretical and empirical economic analysis and the application of these tools to the study of specific economic phenomena.

A complete description of the standard concentration programs leading to the bachelor’s degree in Economics, Applied Math-Economics, Computer Science-Economics, and Mathematical Economics can be found on the Economics Department website: http://www.brown.edu/Departments/Economics/

A description of the following interdepartmental programs emphasizing applications of economic analysis can be found on their respective websites:

1. Commerce, Organizations, and Entrepreneurship: http://coe.brown.edu/
3. International Relations: http://www.watsoninstitute.org/ir/

For additional information regarding standard concentration programs, please visit http://www.brown.edu/Administration/Registrar/concentration.html.

Graduate Program

The Ph.D. program in economics at Brown trains students in economic theory and the tools of economic analysis. Through coursework, participation in seminars, and supervised research, students are taught to conduct theoretical and empirical research at the highest level.

The Ph.D. degree requires two years of course work, followed by supervised research and the completion of a doctoral dissertation. The first year involves core courses in microeconomics (EC 205, 206), macroeconomics (EC 207, 208), econometrics (EC 203, 204), mathematics (EC 201), and applied economics analysis (EC 202). Students take written core examinations in microeconomics, macroeconomics, and econometrics at the end of the first year. The remaining preliminary requirements are seven courses in advanced fields of specialization chosen from the offerings listed below. These requirements are generally fulfilled during the second year. Many students elect additional courses in economics and related subjects, especially mathematics. There is no foreign language requirement.

The culmination of the Ph.D. program is the dissertation, which embodies the results of the student’s original research. Work on the dissertation usually takes two-three years after completion of course work. Students working on dissertations participate actively in research workshops. After a faculty committee has approved the dissertation, the student takes a final oral examination on the subject of the dissertation.

The work in the Ph.D. program is demanding and the standards of performance are high. The department’s reputation for providing superb training has enabled its graduates to compile an excellent placement record. Most recipients of the Ph.D. degree enter college teaching. Many obtain positions at leading universities. Others take research positions in government agencies and industrial, consulting, and financial institutions. Brown graduates have an outstanding record of research accomplishments and publications.

The department does not have a separate A.M. program and does not encourage applications from students who only wish to pursue the A.M. degree. Students can earn the A.M. on the way to the Ph.D. or can receive the A.M. if they choose not to complete the Ph.D. program. The A.M. requires passing eight courses in the areas of microeconomics, macroeconomics, econometrics, and mathematics.
Courses of Instruction

Primarily for Undergraduates

11. (0110) Principles of Economics
Extensive coverage of economic issues, institutions, and vocabulary, plus an introduction to economic analysis and its application to current social problems. Required for all economics concentrators. Prerequisite for EC 111, 113, 121 and 162. Serves as a general course for students who will take no other economics courses and want a broad introduction to the discipline. Weekly one-hour conference required. R. M. FRIEDBERG and R. SERRANO.

18. (0180) First Year Seminar
Enrollment limited. Written permission required.

51. (0510) Development and the International Economy
A course designed primarily for students who do not plan to concentrate in economics but who seek a basic understanding of the economics of less developed countries, including savings and investment, health and education, agriculture and employment, and interactions with the world economy, including trade, international capital flows, aid, and migration. Prerequisite: EC 11. STAFF.

71. (0710) Financial Accounting
Basic accounting theory and practice. Accounting procedures for various forms of business organizations. STAFF.

79. (0790) Business, Economics, Ethics
This is a seminar that focuses on issues of ethics that arise in the context of business and economics. Learning occurs primarily through guided student discussions in class. Other economics courses, especially 11, 111, 172 and 179 are highly recommended. Enrollment limited. Written permission required. S/NC. I. WELCH.

For Undergraduates and Graduates

111. (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. Prerequisite: MA 6, 7 or 9 or equivalent; and EC 11 or advanced placement. X. L. QIU and STAFF.

113. (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 EC 111. Prerequisite: MA 10 or 17; and EC 11 or advanced placement. STAFF.

116. (1160) Managerial Economics
Analysis for making policy decisions within a firm. Goals of the firm, analytical methods for optimizing under constraints. Production decisions, pricing strategies, and investment plans. Advertising, diversification, and research and development. Effect of nonmarket constraints, governmental and self-imposed. Treatment of risk and uncertainty. Prerequisite: EC 111 or 113. STAFF.
117. (1170) Welfare Economics  
A survey of theories of economic optimality. Topics covered include efficiency and competition, externalities, social welfare functions, majority voting, the Arrow impossibility theorem, compensation criteria and an introduction to the problems of mechanism design and implementation. Prerequisite: EC 111 or 113. STAFF.

121. (1210) Intermediate Macroeconomics  
The economy as a whole: Level and growth of national income, inflation, unemployment, role of government policy. Prerequisite: EC 11. A. LESTER, P. HOWITT, and STAFF.

122. (1220) Monetary and Fiscal Policy  
Relation of monetary and fiscal policy to inflation, to aggregate employment, and to the financing of the public sector. The political economy of monetary and fiscal policy. Contemporary and historical applications, including the economic expansion of the 1990s and the subsequent recession in the United States, the prolonged economic slump in Japan, the economic crisis in Argentina. Prerequisite: EC 121. STAFF.

130. Education and the Economy: Lessons for Reform  
(Education 115, Public Policy and American Institutions 115)  
Interested students should register for Education 115.

131. (1310) Labor Economics  
Labor supply, human capital, income inequality, discrimination, immigration, unemployment. Prerequisite: EC 111 or 113, and 162. A. AIZER.

135. Environmental Economics and Policy  
(Environmental Studies 135)  
Interested students should register for Environmental Studies 135.

136. (1360) Health Economics  
(BioMed-Community Health 136)  
This course introduces students to the issues, theory and practice of health economics in the US. Topics include the economic determinants of health, the market for medical care, the market for health insurance and the role of the government in health care. Course work includes data analyses using the program STATA. Prerequisite: EC 111, EC 162 or other statistics background. A. AIZER.

137. (1370) Race and Inequality in the United States  
We examine racial inequality in the United States, focusing on economic, political, social and historical aspects. Topics include urban poverty, employment discrimination, crime and the criminal justice system, affirmative action, immigration, and low wage labor markets. Black/white relations in the US are the principle but not exclusive concern. Prerequisite: EC 111 or 113. Enrollment limited. Written permission required. G. C. LOURY.

138. (1380) Economics and the Law  
Examines the economic basis for legal decisions. Cost-benefit analysis, social costs, the Coase Theorem, and the assignment of property rights. The economics of property and contracts, tort law, and criminal law. Prerequisite: EC 111 or 113. A. M. FELDMAN.

141. (1410) Urban Economics  
(Urban Studies 141)  
Analysis of the growth of metropolitan areas with special emphasis on the spatial distribution of population and employment within such areas. Urban problems and associated policy issues: congestion, pollution, housing and governmental structure. Prerequisite: EC 111 or 113. N. BAUM-SNOW.

142. Topics in Urban Economic Policy  
(Urban Studies 142)  
Interested students should register for Urban Studies 142.
143. (1430) *Population Economics*
An introduction to the economic approach to demography. Applies the theoretical and empirical frameworks of economics to topics such as fertility, migration (both domestic and international), investments in health and human capital, life-cycle labor supply, intergenerational transmission of economic status, the distribution of income and wealth, and the interaction of population growth with the standard of living. Prerequisite: EC 111 or 113. N. QIAN.

144. (1440) *Economic Theories of Firms*
Examines theories of why firms exist, their internal organizations and employment relations, ownership and control, efficiency versus conflict approaches, and alternative organizational forms (e.g., employee ownership). Prerequisite: EC 111 or 113. L. PUTTERMAN.

146. (1460) *Industrial Organization*
A study of industry structure and firm conduct and its economic/antitrust implications. Theoretical and empirical examinations of strategic firm interactions in oligopolistic markets, dominant firm behaviors, and entry deterrence by incumbents. Also economics of innovation: research and development activities and government patent policies. Prerequisite: EC 111 or 113. STAFF.

147. (1470) *Bargaining Theory and Applications*
Bargaining theory is emerging as an important area within the general rubric of game theory. Emphasis is on providing a relatively elementary version of the theory in order to make it accessible to a large number of students. Covers introductory concepts in game theory, strategic and axiomatic theories of bargaining and their connections, applications to competitive markets, strikes, etc. Prerequisite: EC 111 or 113. P. DAL BO.

148. (1480) *Public Economics* (Public Policy and American Institutions 148)
An analysis of the role of government in the allocation of resources. Topics include welfare economics (a review), problems of social choice, the evaluation of public expenditures, and taxation. Prerequisite: EC 111 or 113. STAFF.

149. *Economics and Public Policy* (Public Policy and American Institutions 170)
Interested students should register for the appropriate section of Public Policy and American Institutions 170.

150. (1500) *Current Global Macroeconomic Challenges*
Analysis of current economic challenges around the globe. Topics include labor, fiscal and monetary policies, international trade, capital flows and exchange rate policy, and policies for long-run growth. Country and regional cases cover the US, Europe, Japan, China, and selected emerging markets. Prerequisite: EC 121. Also recommended: EC 155 and 185. M. V. CARKOVIC.

151. (1510) *Economic Development*
The economic problems of less developed countries and the theory of economic development, with emphasis on the roles played by agriculture, industry, and foreign trade. Also: education, health, employment, and migration; capital accumulation; income distribution; institutional aspects; the role of price distortions; trade policies; social discount rates, investment criteria, and the general issue of state intervention. Prerequisite: EC 111 or 113; EC 162. N. QIAN.
152. (1520) *The Economic Analysis of Institutions*
This course deals with the economic analysis of institutions, with a focus on developing countries. The first section covers institutions in traditional agrarian societies. Topics include consumption smoothing and the organization of land, labor and credit markets. The second section focuses on the role of the community in facilitating economic activity. Institutions include cooperatives, networks, marriage and the family. Prerequisite: EC 111, 162 or equivalent. Enrollment limited. K. MUNSHI.

153. (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. Prerequisite: EC 111 or 113. M. M. PITT.

154. (1540) *International Trade*

155. (1550) *International Finance*
The balance of payments; identification and measurement of surpluses and deficits; international monetary standards; the role of gold and paper money; government policies; free versus fixed exchange rates; international capital movements; war and inflation; the International Monetary Fund. Prerequisite: EC 121. G. H. BORTS.

156. (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. Prerequisite: EC 111 and 121. D. N. WEIL.

158. (1580) *Comparative Economic Systems*
Recent histories, institutional structures, and performance of industrialized economies of the US, Europe, and Asia. The Marxian critique of capitalism; the theory of centrally planned economies; the Soviet economy; and problems of reform and transition. Workers’ self-management as an alternative industrial order. Prerequisite: EC 111 or 113. L. PUTTERMAN.

159. (1590) *The Economy of China since 1949* (East Asian Studies 159)
The organization, structure, and performance of the economy of the People’s Republic of China. All major economic sectors and both the pre-1979 and the post-1979 periods are examined, with emphasis on institutions. Both analytical and descriptive methods used. Prerequisite: EC 111 or 113. EC 121, 151, and 158 are recommended but not required. L. PUTTERMAN.

160. (1600) *Economics of the Middle East*
A survey of the economies of the Middle East. Examines various aspects of the economic realities of the region, including economic and human development, water and food security, the economics and politics of oil, population growth and labor mobility, education,
the role of the state, economic reform, the political economy of conflict and peace, and the prospects for regional integration. Prerequisite: EC 111 or 113. Y. RUBINSTEIN.

162. (1620) Introduction to Econometrics (Urban Studies 162)

163. (1630) 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. Prerequisite: EC 111, EC 113 or the equivalent, and AM 165 or MA 162. F. KLEIBERGEN.

164. (1640) Econometrics II
Continuation of EC 163 with an emphasis on econometric modeling and applications. Includes applied topics from labor, finance, and macroeconomics. Prerequisite: EC 163. S. MAVROEIDIS.

171. (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. Prerequisite: EC 111 or EC 113. A. M. FELDMAN and STAFF.

172. (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, real options, financial engineering, securitization. Prerequisite: EC 111 or EC 113; EC 162 or EC 163 or AM 165. I. WELCH and STAFF.

175. (1750) Investments II, Options and Derivatives
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. Prerequisite: EC 111 or 113; EC 162 or 163 or AM 165; EC 171. I. PALACIOS-HUERTA.

176. (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. Prerequisite: EC 121. R. E. LEVINE.

177. (1770) Fixed Income Securities
The fixed income market is much larger than the stock market in the US. Topics covered in this course include basic fixed income securities, term structure, hedging interest rate risk, investment strategies, fixed income derivatives, mortgage-backed securities and asset-backed securities. Prerequisite: EC 111 or EC 113; EC 162, EC 163 or AM 165; EC 171 or EC 172, preferably EC 171. X. L. QIU.
178. (1780) Corporate Strategy
This course teaches analysis of strategic decisions facing an organization. We cover traditional strategy topics such as capabilities and sustainability as well as modern game theory models of competition. A central integrating idea is anticipating the response of other actors in the economy and recognizing that often an organization’s profits depend on the actions of other firms. Prerequisite: EC 111 or 113; EC 162 or 163; EC 172. Written permission required. STAFF.

179. (1790) Corporate Governance and Management
A corporation’s economic success depends on access to human capital and other resources, effective management of these resources, and a governance system that ensures effective decision making. The course offers policy prescriptions in economic incentives and regulatory rules that attempt to align management with investors. Prerequisite: EC 111 or 113; EC 162 or 163 or AM 165; EC 172; EC 71. Enrollment limited. Written permission required. STAFF.

185. (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. Prerequisite: EC 121 and either AM 33, 34 (or equivalent) or MA 18 (or equivalent). O. GALOR.

186. (1860) The Theory of General Equilibrium
Existence and efficiency of equilibria for a competitive economy; comparative statics; time and uncertainty. Prerequisite: EC 111 or 113. S. TURNER.

187. (1870) Game Theory and Applications to Economics
Study of the elements of the theory of games. Non-cooperative games. Repeated games. Cooperative games. Applications include bargaining and oligopoly theory. Prerequisite: EC 111 or 113; MA 10 (or equivalent); and one of EC 162, AM 165, or MA 161. STAFF.

An opportunity for seniors in economics to pursue a research project in the areas of applied economics and finance, broadly defined, within the context of a discussion group. Students writing honors theses may register for this course both fall and spring. Students pursuing one-semester research projects may register either fall or spring. Open only to seniors in an Economics concentration. Written permission required. I. PALACIOS-HUERTA.

199. (1770) Independent Research
Primarily for Graduates

Techniques of mathematical analysis useful in economic theory and econometrics. Linear algebra, constrained maximization, difference and differential equations, calculus of variations. S. TURNER and STAFF.

This course provides students with skills needed to integrate economic theory, econometric methods, and data management in the analysis of economic problems. Provides a hands-on perspective including assignments designed to derive testable propositions from simple economic models, illustrate the loading, cleaning and merging of complex survey data, and
provide experience in the selection and interpretation of basic econometric methods. N. QIAN and A. FOSTER.

203. (2030) *Introduction to Econometrics I*
The probabilistic and statistical basis of inference in econometrics. A. LANCASTER.

204. (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. S. MAVROEIDIS.

205. (2050) *Microeconomics I*
Decision theory; consumer’s and producer’s theory; general competitive equilibrium and welfare economics: the Arrow-Debreu-McKenzie model; social choice. R. SERRANO.

206. (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; monopolist competition; market structure in single shot, repeated and staged games; and vertical differentiation. G. C. LOURY.

207. (2070) *Macroeconomics I*
Consumption and saving, under both certainty and uncertainty; theory of economic growth; real business cycles; investment; and asset pricing. D. N. WEIL.

208. (2080) *Macroeconomics II*
Money, inflation, economic fluctuations and nominal rigidities, monetary and fiscal policy, investment, unemployment, and search and coordination failure. P. HOWITT.

209. (2090) *Topics in Microeconomics*
Resource allocation, market failure, and incentives. Examines the most common forms of market failure (incomplete information, incomplete markets, public goods, increasing returns), formulates a general approach to these issues, and explores methods for restoring efficiency including the study of mechanism design. S. TURNER.

213. (2130) *Topics in Monetary Economics*
Business cycle analysis with an emphasis on heterogeneous-agent economics and the interaction between business cycles and economic growth. STAFF.

216. (2160) *Risk, Uncertainty, and Information*
Advanced topics in the theories of risk, uncertainty and information, including the following: Decision making under uncertainty: expected and non-expected utility, measures of risk aversion, stochastic dominance. Models with a small number of agents: optimal risk-sharing, the principal-agent paradigm, contracts. Models with a large number of agents: asymmetric information in centralized and decentralized markets. Implementation theory. R. SERRANO.

218. *Game Theory*

219. (2190) *Topics in Economic Theory*
Topics vary from year to year. Recent topics include: auction theory, cooperative game theory, and general equilibrium theory under incomplete information. May be repeated for credit.
221. (2210) Political Economy I
An introduction to political economy, focusing especially on the political economy of institutions and development. Its purpose is to give a good command of the basic tools of the area and to introduce at least some of the frontier research topics. The readings will be approximately evenly divided between theoretical and empirical approaches. A. LESTER.

222. The Political Economy of Punishment (Public Policy and American Institutions 220)
Interested students should register for Public Policy and American Institutions 220.

233. (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. Y. RUBINSTEIN.

236. (2360) Economics of Health and Population
An introduction to current research in the economics of health and population. Focuses on studies of empirically-tractable and tested models of individual, household, and firm behaviors and how these behaviors interact through markets and other institutions. Among the subjects considered are the economics of fertility and marriage, the operation of the health services sector, and the implications of population aging. A. AIZER.

237. (2370) Inequality: Theory and Evidence
This course uses economic theory to study the problems of inequality. The emphasis is two-fold: (1) to explain persistent resource disparities between individuals or social groups; and, (2) to assess the welfare effects of various equality-promoting policies. Topics include racial stereotypes, residential segregation, distributive justice, incentive effects of preferential policies, dysfunctional identity, and endogenous inequality due to the structure of production and exchange. Enrollment limited. Written permission required. G. C. LOURY.

241. (2410) Urban Economics
Models of location and pricing in a spatial context; the internal structure of cities; systems of cities and city size, urban development and economic growth, housing economics and land markets; and transportation economics. J. V. HENDERSON.

242. (2420) Urban Economics II
This course will cover standard urban land use theory, urban transportation, sorting of heterogeneous individuals across political jurisdictions, hedonics and housing. Empirical examples will be taken primarily from the United States. All students should have completed the first year graduate economics sequences before taking this course. N. BAUM-SNOW.

247. (2470) Industrial Organization
Monopolistic competition, market structure and entry, nonprice competition, economics of information. STAFF.

248. (2480) Public Economics
Theoretical and empirical analysis of the role of government in private economies. Topics include welfare economics, public goods, externalities, income redistribution, tax revenues, public choice, and fiscal federalism. B. G. KNIGHT.
251. (2510) **Economic Development I**  
Economic growth in low income countries. Topics include labor markets, household economics, health and nutrition, population growth, migration, human capital formation. A. D. FOSTER.

252. (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 includes cooperatives, ROSCAS, networks, marriage and the family. K. MUNSHI and N. QIAN.

253. (2530) **Economic Analysis of Nonmarket Institutions**  
Introduction to research on the economics of organization, especially internal organization and contractual structures of firms as viewed by “the new institutional economics” and related approaches. Consideration of nonstandard elements of preferences relevant to organization problems; the roles of status, peer pressure, reciprocity, and punishment in problems of cooperation and hierarchy. Applications in comparative institutional design and comparative economic systems. L. PUTTERMAN.

258. (2580) **International Trade**  
General equilibrium analysis of the theory of international trade and trade policy under perfect competition; trade under imperfect competition; strategic trade policy; trade and growth; and the political economy of trade policy determination. Empirical analysis of trade theories and policy. Additional topics include the theory of preferential trading areas, trade and labor, and the analytics of trade policy reform. STAFF.

259. (2590) **Topics in International Economics**  
Advanced theoretical and empirical research topics in international economics emphasizing positive and normative analysis of trade, trade policy and international trading agreements, policy reform and stabilization, exchange rate determination, sovereign debt and currency crises and optimum currency areas. STAFF.

261. (2610) **Applied Econometrics**  
Topics in applied econometrics. Both cross-sectional and time series issues will be discussed. Special emphasis will be placed on the link between econometric theory and empirical work. STAFF.

263. (2630) **Econometric Theory**  
Standard and generalized linear models, simultaneous equations, maximum likelihood, Bayesian inference, panel data, nonlinear models, asymptotic theory, discrete choice, and limited dependent variable models. F. KLEIBERGEN and S. MAVROEIDIS.

264. (2640) **Microeconometrics**  
Topics in microeconometrics treated from a modern Bayesian perspective. Limited and qualitative dependent variables, selectivity bias, duration models, panel data. A. LANCASTER.

266. (2660) **Macroeconometrics I**  
Topics in Econometrics. The lecture consists of a number of influential articles in Econometrics on topics like GMM, Empirical Processes, Weak instruments, Non-and Semi-parametric regression, Bootstrap, Edgeworth approximation. A. LANCASTER and S. MAVROEIDIS.

269. **Interdisciplinary Perspectives on Population (Sociology 228, Anthropology 201)**  
Interested students should register for Sociology 228.
282. (2820) *Discrete Dynamical Systems and Application to Intertemporal Economics*
This course will focus on the qualitative analysis of discrete dynamical systems and their application for Intertemporal Economics. O. GALOR.

283. (2830) *Economic Growth*
The role of human capital, income distribution, population growth, technological progress, and international trade in the determination of differences in growth performance across countries. Inequality and economic growth. Technological progress and wage inequality. The transition from stagnation to sustained growth. Evolution and growth. O. GALOR.

284. (2840) *Empirical Analysis of Economic Growth*
Examines economic growth, focusing on the effects of technological change, fertility, income inequality, and government policy. EC 283 is strongly recommended. D. N. WEIL.

285. (2850) *Theory of Innovation-Based Growth†*
Issues concerning innovation-based growth theory, including scale effects and effects of research and development versus capital accumulation. Interactions between growth and phenomena such as fluctuations, unemployment, natural resources, competition, regulation, patent policy, and international trade. P. HOWITT.

291. (2980) *Reading and Research*
Individual research projects.

295. (2950) *Workshop in Econometrics*
No course credit.

296. (2960) *Workshop in Macroeconomics and Related Topics*
No course credit.

297. (2970) *Workshop in Economic Theory*
No course credit.

298. (2930) *Workshop in Applied Economics*
No course credit.

299. (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. No course credit.

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**Education**

Professors García Coll, Kaestle, and Wong; Associate Professors Li, and Tyler (Chair); Assistant Professors Cho and West; Senior Lecturers Johnson, and Wakeford; Professor-at-Large Heath; Lecturers Snyder, Spoehr, and Ulichny; Adjunct Professor Simmons; Adjunct Associate Professor Becker; Adjunct Assistant Professor Amirault; Clinical Assistant Professors Foley, Grady, and Wolf; Adjunct Senior Lecturer Landay; Adjunct Lecturers Dorr, Elliott, Epstein, Gillette, Nosal, Starr, and Shaw; Professors Emeriti Archambault, Eschenbacher, Modell, Sizer; Visiting Professor Demick.

The department offers both individual courses for students in the University at large who are interested in aspects of education and two special programs for undergraduates—a concentration in Education Studies and the Undergraduate Teacher Education Program.

At the graduate level, a program for prospective secondary school teachers leading to the degree of Master of Arts in Teaching is offered.
In conjunction with the Wheeler School, Brown offers a Master of Arts in Teaching leading to elementary teacher certification.

A newly established, one year program in Urban Education Policy leads to a Master of Arts.

For additional information, please visit the department website at: http://www.brown.edu/Departments/Education/

Undergraduate Programs

For a complete description of the following standard concentration programs leading to the bachelor’s degree, please visit:
http://www.brown.edu/Administration/Registrar/concentration.html

- Education (Undergraduate Teaching Program)
- Education Studies

Graduate Programs

Master of Arts in Teaching Program—Secondary Education

Brown offers a twelve month (summer plus academic year) program to prepare college graduates for careers in secondary education, leading to the degree of master of arts in teaching and secondary certification (grades 7-12). The program involves courses taken in the student’s teaching field (e.g., English, social studies/history, biology/science) and in education, including a summer practicum and academic year experience as a student teacher in a local school. The program involves several departments and is administered by the Department of Education.

A detailed description of the requirements for the Master of Arts in Teaching degree, and of procedures for applying for candidacy are available from the Graduate School.

Master of Arts in Teaching Program—Elementary Education

Brown University, in cooperation with the Wheeler School and in partnership with local public elementary schools, offers a Master of Arts in Teaching leading to elementary teacher certification (grades 1-6).

This program is a strand of the University’s Master of Arts in Teaching Program. Students participate in a highly-collaborative program and spend significant time in public and private school settings working with experienced elementary school teachers. The MAT program begins in the summer and includes two semesters of study. The summer practicum is held at Community Preparatory School and includes one course in teaching methods.

Student teachers are placed in both area public schools, which have a diverse ethnic population, and at the Wheeler School, a progressive nursery–twelve, coed independent school founded in 1889. This combination allows students to experience two different school environments during the same year.

Master of Arts in Urban Education Policy

Brown offers a master’s level program leading to an A.M. in Urban Education. The UEP program is a twelve-month program dedicated to the study of policy analysis, planning, and development in urban public education. The tightly focused academic curriculum, integrated with a nine-month internship, is designed to impart a set of core skills and competencies that are necessary for successful careers in urban education policy. The UEP
program also provides a solid foundation for those anticipating advanced study in the areas related to urban education policy.

Courses of Instruction

Primarily for Undergraduates

40. (0400) *The Campus on Fire: American Colleges and Universities in the 1960’s* (History 98)
Ole Miss, Berkeley, Columbia, and Kent State: just a few of the campus battlegrounds where conflicts over civil rights, the Vietnam War, and other major issues were fought in the 1960’s. Students consult primary and secondary sources about higher education’s role in these conflicts, and why the consequences of its involvement still linger today. For first year students only. Enrollment limited. Written permission required. L. SPOEHR.

41. (0410) *First Year Seminar* (0410B) *Controversies in American Education: A Multidisciplinary Approach*
The study of education lies at the intersection of the social sciences, and scholars from a diverse range of disciplinary backgrounds have made important contributions to our understanding of its central issues. In the first half of this seminar, students will engage foundational readings on education in history, political science, economics, and sociology. In the second half, they will use insights from each of these perspectives as we examine a series of controversial issues in American K-12 education policy. For first year students only. Enrollment limited. Written permission required. M. WEST.

80. (0800) *Introduction to Human Development and Education* (Ethnic Studies 80)
Introduces the study of human development and education from infancy through young adulthood. Provides a broad overview of scientific understanding of how children develop and how research is generated in the field. Major topics include biological foundations, mind, cognition, language, emotion, social skills, and moral understanding based on developmental theories and empirical research. The educational implications of research on human development are discussed. J. LI.

90. (0900) *Fieldwork and Seminar in Secondary Education* (Urban Studies 90)
Combines study of current educational issues with extensive fieldwork that allows the student to observe how these issues translate themselves into reality on a daily basis. Each student reads and discusses recent writing about educational history, theory, and practice, and observes a class in a local school for 32 hours. The final paper synthesizes reading and observations. For first year students only. Enrollment limited. Written permission required. L. F. WAKEFORD.

For Undergraduates and Graduates

101. (1010) *The Craft of Teaching*
What is the “craft of teaching”? A wide variety of texts are used to investigate the complexity of teaching and learning. Considering current problems as well as reform initiatives, we examine teaching and learning in America from the perspectives of history, public policy, critical theory, sociology, and the arts. Weekly journals and reading critiques; final portfolio presented to the class. S/NC. W. J. JOHNSON.
102. (1020) *The History of American Education* (History 196)
An introduction to the historical study of schooling in the U.S. Drawing together social, political, economic, and cultural perspectives, explores how public schooling has related to different groups in American history. C. KAESTLE.

103. (1030) *Comparative Education*
National systems of formal education, over the past two centuries, have proliferated massively. International organizations, governmental and nongovernmental, have long promoted the universal provision of mass education as central goals in the modern way of life. At the same time, the way children are raised, and the kinds of adults they become, varies considerably. Comparative education seeks to explore this interplay of variety and uniformity. Enrollment limited. Written permission required. J. MODELL.

104. (1040) *Sociology of Education* (Sociology 104)
The eclectic sociological imagination is turned upon that crucial modern institution: education. Considers formal education as a contemporary institution and schools as organizations both in comparative perspective and in more microscopic ways. Asks what schools and schooling means to society and to children from different social and economic circumstances. Enrollment limited. Written permission required. J. MODELL.

107. (1070) *Student Teaching*
Provides no fewer than 180 hours of practice teaching and observation, equivalent to 6 semester hours of credit in institutions operating on a semester hour basis, and fulfills the supervised student teaching requirement for secondary school teaching certification in most states. Prerequisite: ED 206. Restricted to students in the Undergraduate Teacher Education Program. Written permission required. S/NC.

108. (1080) *Analysis of Teaching*
A critical analysis of the activity of teaching, required to be elected concurrently by those students taking ED 107, Student Teaching. Supports student teaching and emphasizes the analysis of teaching from several theoretical perspectives. May not be elected independently of ED 107. Written permission required. S/NC.

110. (1100) *Introduction to Qualitative Research Methods*
Designed for sophomores or juniors concentrating in education studies, but also open to other undergraduates interested in qualitative research methods. Through readings, class exercises and discussions, and written assignments, examines issues related to the nature of the qualitative research methods that are commonly used in education, psychology, anthropology, and sociology. Enrollment limited. S/NC. P. ULICHNY.

Introduction to the key ideas underlying statistical and quantitative reasoning. A hands-on pedagogical approach utilizing examples from education research and public policy analysis. Topics include the fundamentals of probability, descriptive and summary statistics, statistical inference, bivariate and multivariate regression, correlation, and analysis of variance. Computer-based data analysis reinforces statistical concepts. Enrollment limited. Written permission required. R. CHO.

113. (1130) *Analyzing Education Policy: Lessons from Economics* (Public Policy and American Institutions 113)
How do we attract good teachers to public schools? What are the economic returns to early-childhood intervention programs? These are just two examples of important education policy questions. This course introduces key concepts of microeconomic theory and uses
them to analyze these and other policy questions. Organized around a structured sequence of readings. Prerequisite (one of the following): EC 11, ED 102, PS 10, SO 13, or the equivalent. J. H. TYLER.

115. (1150) *Education, the Economy and School Reform*† (Economics 130, Public Policy and American Institutions 115)
Changes in the economy have had dramatic negative consequences for those without a college degree. This seminar explores the impact of these changes on workplace organization and the demand for skills, on what is taught in schools, and on school reform. Prerequisites: Education and PP concentrators, ED113 and ED111 (or equivalent); Economics concentrators, EC111 or EC113, and EC162. Enrollment limited. Written permission required. J. H. TYLER.

116. (1160) *Evaluating the Impact of Social Programs* (Public Policy and American Institutions 116)
Does a GED improve the earnings of dropouts? Do stricter gun laws prevent violent crime? Such “causal” questions lie at the heart of public policy decisions. This course examines both the difficulties involved in answering causal policy questions, and research designs that can overcome these difficulties. Prerequisite: ED111 or equivalent. Enrollment limited. Written permission required. J. H. TYLER.

120. (1200) *History of American School Reform* (History 196)
Examines a century of efforts to improve schooling in the U.S., from John Dewey to Theodore Sizer and E.D. Hirsch, from “social efficiency” to charter schools and performance-based standards. How have these movements been affected by the historical contexts in which they operated? Have they produced any lasting results? How, if at all, should current reform movements be informed by the experiences of the past? L. SPOEHR.

121. (1210) *Public Education and People of Color in U.S. History* (Ethnic Studies 196, History 198)
A comparative historical analysis of Native Americans, African Americans, Latino Americans, Asian Americans and public schooling. This seminar will examine the evolution of education policies regarding these groups, their experiences with public schooling, and their efforts to challenge their treatment. Previous relevant courses in U.S. History required. Enrollment limited. Written permission required. C. KAESTLE.

122. (1220) *The Anthropology of Education*
Designed to introduce students to the many forms of “education” across the lifespan and in different cultures, this course will call on students to step beyond their own schooling. Of particular importance will be the uses of materials, experts, space and time in different educational settings. Films and print materials will allow students to rethink the idea of “learner” and “teacher” in terms of varying needs, goals, and situations. S. B. HEATH.

123. (1230) *Research for Learning: Cross-disciplinary Patterns and Uses*
A course that considers determinants of quality in social science research and prepares students to read research reports in the popular press with a discriminating eye. In addition, students will learn core concepts of research in Education and the Public Health fields. Students will also gain experience in writing short proposals for summer research projects, independent study, or an honors thesis. Enrollment limited. Written permission required. S. B. HEATH.

126. (1260) *Emotion, Cognition, Education*
Provides an understanding of the role of emotions in influencing cognitive and social development. Reviews selected topics in the growing area of emotions and social cognition.
Discussions focus on critical reviews of the literature and the application of the literature to education. Basic knowledge of the area is not assumed, so students in various areas are invited to participate. Written permission required. J. DEMICK.

127. (1270) Adolescent Psychology
Provides systematic treatment of the psychological, biological, and sociocultural nature of the adolescent. Both an individual and a collective perspective on the nature of the adolescent and adolescence are used to provide an analytical and comprehensive understanding of the complex environment and psyche of the adolescent. Readings include theoretical and empirical papers from such areas as psychology, sociology, anthropology, and education. Written permission required. J. DEMICK.

142. The Anthropology of Play (Anthropology 143)
Interested students should register for Anthropology 143.

143. (1430) The Psychology of Race, Class, and Gender (Ethnic Studies 103)
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. Prerequisites: ED 80 or ED 127 or ED 171. Enrollment limited. Written permission required. J. DEMICK.

145. (1450) The Psychology of Teaching and Learning
Seeks both to demystify the process of teaching and to illuminate its complexities. Assists students with such questions as: What shall I teach? How shall I teach it? Will my students respond? What if I have a discipline problem? Focuses on the teaching-learning process and student behavior, as well as research, theory, and illustrations concerned with classroom applications of psychological principles and ideas. Enrollment limited. Written permission required. J. LI.

147. (1470) Sociology of Children and Adolescents (Sociology 147)
We persistently sentimentalize children (until adolescence) in our culture, feeling them to be governed jointly by the unfolding of natural developmental processes and the influence of adults. This perspective is challenged by examining children as (sometimes reluctant) participants in social institutions, as enactors and re-negotiators of prescriptions based on age, and as creators of peer society. J. MODELL.

151. (1510) Critical Pedagogy and White Privilege: Crossing Boundaries in Urban Education
Using the lenses of Cultural Studies and Education this course will employ a variety of media and print materials, as well as conduct research involving observation and field work. We will look at the evolution of “whiteness” as an area of academic inquiry and the development of critical pedagogy as an underpinning to progressive education. Enrollment limited. Written permission required. S/NC. W. J. JOHNSON.

156. (1560) Philosophy of Education
Consideration of different philosophies of education (classical, progressive, radical, feminist, multicultural). This iterative inquiry-based collaboration locates knowledge constructively and relationally, emphasizing classroom discussion, careful reading and writing (including on-line), and midterm and final projects on our philosophies and praxes of education. Enrollment limited. C. T. AMIRAULT.

158. (1580) Cross-Cultural Perspectives on Child Development (Anthropology 136, Ethnic Studies 158, Psychology 158)
Focus on role of culture in child development, infancy to young adulthood. Reviews contemporary theories and empirical research to examine various age periods and domains
of development. Major topics: infant care, parenting, socialization, gender roles, cognition, moral development, affect, adolescence, and education and schooling in formal and informal settings. Prerequisites: ED 80 or ED 127 or ED 171 or CG 63 or PY 81. Enrollment limited. Written permission required. J. Li.

159. (1590) Teaching Topics in American History and Literature, 1917–1945†
(History 196)
Combines intensive study of selected topics in American history and literature from 1917 through 1945 with consideration of how to present material effectively. While this is not a “methods” course, students are introduced to relevant teaching techniques; learn to set up their own goals, performance objectives, activities, and assessments; and develop classroom presentations. Written permission required. L. SPOEHR.

162. (1620) Teaching Topics in American History and Literature, 1945–1980
(History 196)
Combines intensive study of primary and secondary sources from American history and literature between 1945 and 1980 with extensive consideration of how to teach these topics to secondary school students. Topics include the Cold War, McCarthyism, consumer society, civil rights, the women's movement, Vietnam, and Watergate, often studied through unconventional sources such as popular music, movies, television shows, and fiction. Prerequisite: HI 52 or equivalent. Enrollment limited. Written permission required. L. SPOEHR.

164. (1640) Public Schools and Politics (Political Science 182, Urban Studies 163)
Uses case studies of urban districts to investigate how political decisions affecting public schools are made by school boards, mayors, state legislatures, governors, statewide ballot initiatives, courts, Congress and the White House. Preference to those familiar with state and local politics and public schools. ED 50 and PS 22 or the equivalent recommended. Enrollment limited. Written permission required. J. B. STARR.

165. (1650) Policy Implementation in Education
(Public Policy and American Institutions 165, Political Science 180)
This course offers an “analytical foundation” for students interested in public policy implementation, with particular emphasis on education. Drawing on social science research, the course examines strengths and limitations of several frameworks, including the “policy typology” school of thought, the rational actor paradigm, the institutional analysis, the bargain model, the organizational-bureaucratic model, and the “consumer choice” perspective. K. K. WONG.

169. (1690) Literacy, Community, and the Arts: Theory into Practice
(Theatre, Speech and Dance 169)
An exploration of ways to improve student literacy skills through the performing arts in area schools. Students read about the theory and practice of literacy and the arts, research national and local initiatives, engage in arts activities, and spend time in area classrooms working with local teachers and artists to draft curriculum materials to be used in summer and school-year programs. Enrollment limited. Written permission required. STAFF.

171. (1710) History and Theories of Child Development (Psychology 171)
An examination of child development from a historical and theoretical perspective, including key historical figures such as Darwin, Hall, Baldwin, Binet, Freud, Watson, Piaget, Vygotsky, Gesell, McGraw, Bowlby, and Bayley. Explores theoretical conceptualizations of children and adolescents and investigates the representations of children in popular culture, governmental legislation, education, and public policy. Prerequisites: ED 80 or ED 127 or CG 63 or PY 81. C. T. GARCÍA COLL.
173. (1730) *American Higher Education in Historical Context* (History 196, Psychology 193)
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; and the often competing priorities of teaching, research and service.
L. SPOEHR.

175. (1750) *Contemporary Social Problems: Views from Human Development and
Education* (Ethnic Studies 175, Psychology 176)
Explores social problems in terms of contemporary theories and research in human
development and education. The class chooses issues for discussion and researches their
mechanisms and possible solutions. Demands basic knowledge of theory and research in
psychology, sociology, or anthropology, and background in educational issues.
Prerequisite: ED 80 or ED 127 or ED 171 or any other two social science courses. C. T.
GARCÍA COLL.

176. (1760) *Education and Public Policy* (Public Policy and American Institutions 176)
Uses case studies of urban, suburban, and rural districts to explore salient issues in public
policy regarding elementary and secondary education. Preference to those with knowledge
and experience in public policy and public schools. ED 50 and PS 10 or equivalent
recommended. Enrollment limited. Written permission required. J. B. STARR.

182. (1820) *History of Print Culture in America* (English 190, History 198)
Considers briefly the advent of printing and the impact of the book in early modern Europe
as background for studying the history of print culture in the U.S. Begins in British colonial
America and then analyzes the expanding and diverse uses of published reading matter in
the U.S. from the 18th to the 20th century. Enrollment limited. Written permission required.
C. KAESTLE.

185. (1850) *Moral Development and Education*
Examines contending approaches to moral development and its fostering in the home,
school and peer group. Topics include philosophical underpinnings of moral theory,
cognitive and behavioral dynamics of moral growth, values climate of contemporary
American society, the role of schooling, and variations attributable to culture and gender.
Prerequisites: ED 80, 127, or 171, CG 63, PY 81. Enrollment limited. Written permission
required. J. LI.

186. (1860) *Social Context of Learning and Development* (Ethnic Studies 186)
Focuses on the social environment that contributes to the development of children’s minds,
language, self-understanding, relations with others, affect, and attitudes toward learning.
Examines the period from birth through young adulthood. Topics include children’s social
interactions, parental expectations and socialization practices, and the influences of family,
peers, school, and media. Prerequisites: ED 80, 171, 127, CG 63, PY 81. Enrollment
limited. Written permission required. J. LI.


195. *Seminar in the Teaching of Writing* (English 195)
Interested students should register for English 195.

196. *Language, Culture, and Learning†* (Anthropology 198)
Interested students should register for the appropriate section of Anthropology 198.
197. (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. S/NC. STAFF.

198. (1990) **Independent Reading and Research**  
Continued honors thesis supervision. Oral examination/presentation required. Written permission from the honors advisor required. S/NC. STAFF.

**Primarily for Graduates**

202. *Educational Leadership in Diverse Settings: Research, Policy, and Practice* (Portuguese and Brazilian Studies 202)  
Interested students should register for the appropriate section of Portuguese and Brazilian Studies 202.

206. (2060) **Methods of Teaching**  
Restricted to students in the MAT and UTEP programs. Offered during the summer in conjunction with supervised teaching in the Brown Summer High School. S/NC.

207. (2070) **Student Teaching**  
Open only to students in the MAT Program. S/NC.

208. (2080) **Analysis of Teaching**  
An analysis of certain aspects of teaching activity in their relation to theoretical principles of teaching. Elected in conjunction with ED 207, Student Teaching, and required of all candidates for the master of arts in teaching degree. (Credit related to ED 207.) No course credit.

209. (2090) **Literacy Across the Curriculum**  
Focuses on three major areas of pedagogy: literacy across the curriculum, special education, and teaching English Language Learners. Topics include: current theory and practice in the three areas, legal requirements for special education, planning for differentiated instruction, assessment and diagnosis of student skill levels, measuring and reporting student achievement, adapting content for ELLs, selecting and working with texts, and effective vocabulary instruction. S/NC. STAFF.

211. (2110) **Summer Practicum and Analysis**  
Introduces MAT students to elementary school students through work in a unique summer enrichment program for inner city Providence children: Summer Prep readings and seminar meetings focus on arts education; introductions to the teaching of literacy, math and science; curriculum and lesson planning; creating a community of learners; issues of diversity; and physical education. S/NC. J. EPSTEIN and P. ULICHNY.

212. (2120) **Practicum and Seminar in Elementary Education**  
Students participate in an elementary classroom for 2 1/2 days a week for 12 weeks, participating in all aspects of the school day. Students assume responsibility for individualized instruction, small groups and some daily routines. Examines topics in child development; race, class, ethnic and linguistic diversity; assessment; teaching and learning as well as topics arising from the experiences in classrooms. S/NC. J. EPSTEIN and P. ULICHNY.

213. (2130) **Issues and Trends in Education**  
Introduces students to a range of topics that define the current debates in education; the competing purposes of state sponsored education; the standards movement; diversity issues and educational outcomes; the reading wars; standardized testing; multicultural and bilingual education; school choice; teacher unions and teacher professionalism. Students
read about these issues from multiple perspectives and form their own views of the debates. Open to undergraduate enrollment. Enrollment limited. S/NC. L. SNYDER.

214. (2140) Methods and Materials of Math, Science, and Technology
Using a developmental approach, students are introduced to the major concepts and teaching methods used in elementary math and science classrooms. S/NC. Half credit. S. WILLIAMS.

215. (2150) Language and Literacy in the Elementary School Classroom
An introduction to Comprehensive Literacy instruction in reading and writing, including strategies for teaching interactive read alouds; shared reading and shared writing; phonics and word work; independent reading workshop; guided reading; writer’s notebooks; writing workshop; and children’s literature via an author study. S/NC. Half credit. M. NOSAL.

217, 218. (2980) Studies in Education
Independent study; must be arranged in advance.

227. (2270) Student Teaching and Analysis
Provides no fewer than 180 hours of student teaching and observation—equivalent to six semester hours of credit in institutions operating on a semester-hour basis—and fulfills the supervised student teaching requirements for elementary school teaching certification in Rhode Island and in ICC member states. S/NC. J. EPSTEIN and P. ULICHNY.

228. (2280) Seminar: Principles of Learning and Teaching
A critical analysis of the activity of teaching, restricted to and required of students taking ED 227. The course requires curriculum and lesson planning, reflective analyses of student learning and classroom teaching, and places learning and teaching in context with attention to issues of diversity of schools and their student bodies. S/NC. J. EPSTEIN and P. ULICHNY.

230. (2300) Systems and Structures in Urban Education
The aim of the course is to prepare future education policy leaders to understand, have the tools to investigate and be effective in the context of the many organizations that affect the well-being and ultimate success of urban students. Throughout the course, the city of Providence, along with nearby cities, will be a major “text.” W. SIMMONS AND D. WOLF.

231. (2310) Introduction to Educational Research: Design and Methods
Intensive six-week course designed to prepare future leaders in urban education policy with a fundamental understanding of basic concepts, techniques and strategies of social science research. The course goal is for students to acquire skills and knowledge that enable them to inform the design, implementation and ultimate use of applied research in a policy setting and to appreciate its limitations. E. FOLEY AND M. GRADY.

232. (2320) Quantitative Research Methods and Data Analysis
The goal of this course is to provide students in the Urban Education Policy program with a foundation and understanding of basic statistical analyses so that they will be able to design and carry out their own research and will be able to use data to inform education policy and practice. R. CHO.

233. (2330) Urban Politics and Urban Education Policy
This course is a requirement for students of the MA in Urban Education Policy program. It deals with the political science and public policy central question of: How can public institutions be redesigned to improve accountability? Particular attention will be given to the governance and politics in urban public school systems. K. K. WONG.
234. (2340) Human Development and Urban Education
In this course, we will learn relevant theories and research in the academic field of Human Development to urban education practice and policy from preschools to high schools. Special emphasis will be placed in areas where there is research convergence and that are relevant to urban populations and settings. Prerequisites: ED 80 or ED 171 or ED 175 or instructor’s permission. C. T. GARCÍA COLL.

235. (2350) Economics and Education
J. H. TYLER.

236. (2360) Education Policy Analysis
M. WEST.

237, 238. (2370, 2380) Internship
Half credit. STAFF.

299. (2990) Thesis Preparation
No course credit. C. T. GARCÍA COLL.

Education Alliance for Equity and Excellence in the Nation’s Schools

The Education Alliance works in collaboration with states, districts, schools, professional organizations, and communities to effect systemic change in education. As an applied research, development, and technical assistance department, The Education Alliance staff applies research findings to advance educational improvement in areas such as secondary school restructuring, professional development, first and second language acquisition, educational leadership, instructional technology, and cultural and linguistic diversity. With over thirty years of experience, The Education Alliance builds the capacity of educational systems to provide equitable opportunities for all students. Funded annually through federal, state, local, and foundation grants and contracts, the Alliance is an established professional resource for high quality evaluation, development, and technical assistance services.

The Education Alliance conducts over twenty-five rigorous evaluation projects each year that provide educators and policy-makers with quantitative and qualitative information needed to strengthen programs and improve teaching and learning. It also operates the Equity Assistance Center (EAC), which assists schools in solving equity problems in education. The EAC provides training, technical assistance, support, and resources to educators and school systems in New England. In collaboration with the department of Portuguese and Brazilian Studies, the Alliance oversees the masters program in two areas: English as a Second Language and Cross-Cultural Studies, and Portuguese Bilingual Education and Cross-Cultural Studies (see page 523). These programs incorporate current research in bilingual education, second language acquisition, multiculturalism, and clinical experiences.

The Executive Director of The Education Alliance is Dr. Adeline Becker.

For additional information please visit: http://www.alliance.brown.edu/.
Egyptology and Ancient Western Asian Studies

Professor Allen (Chair); Associate Professor Depuydt; Adjunct Professors Bell and Friedman.

Once devoted solely to ancient Egypt, Brown’s newly expanded Department of Egyptology and Ancient Western Asian Studies will eventually encompass as well study of the ancient Near East from Mesopotamia to the Mediterranean. Regularly scheduled courses concern the language, history, religion and culture of the ancient Nile Valley, ranging from the earliest cultures to the Islamic conquest; the curriculum will eventually expand with similar courses covering other ancient Near Eastern cultures.

The department currently offers courses only in Egyptology, but other disciplines will be added in coming years. Graduate and undergraduate students are encouraged to take courses in related subjects (e.g., Anthropology, Art, Classics, History, Linguistics, Old World Archaeology, Religious Studies, and Judaic Studies) in order to experience diverse approaches that will help them to achieve a better understanding of ancient civilization. Both programs will include archaeological courses in conjunction with the Artemis A.W. and Martha Sharp Joukowsky Institute for Archaeology and the Ancient World. Degrees will be offered in Egyptology or Ancient Western Asian Studies, but the curriculum aims at a well-rounded knowledge of both areas of study.

Undergraduate Program
For a complete description of the current standard concentration program leading to the A.B. degree, please visit:
http://www.brown.edu/Administration/Registrar/concentration.html.

Graduate Program
Applications to the graduate program must include a writing sample (or least one college paper in Egyptology or Ancient Western Asian Studies). Reading knowledge of both German and French is recommended. Students selected for preliminary approval will be asked to an interview before being accepted in the program; financial aid in the form of travel and housing is available.

Graduate programs leading to the A.M. and Ph.D. degrees are not rigidly formulated. They are arranged with regard to each student’s needs, interests and previous training.

Completion requirements are currently under revision, pending approval. The program is intended for students seeking the Ph.D. degree in Egyptology or Ancient Western Asian Studies; the A.M. degree will be offered as an option after two years of study. The curriculum normally includes three or four years of courses in language and texts, history, religion, art, and archaeology. Reading knowledge of French and German must be demonstrated by examinations in the first and second years. Egyptology students will be expected to have a command of Middle Egyptian and one other phase (Old or Late Egyptian, Demotic, or Coptic) by the end of the second year, as well as acquaintance with one other ancient language (Akkadian, Hebrew, or other Near Eastern, or Greek) or Arabic, depending on what will best serve their Egyptological interest; similar language proficiency will be required in Ancient Western Asian Studies. Written examinations are given at the end of the second year, and written and oral examinations at the end of the third
or fourth year. Upon successful completion of the two-year examinations, the A.M. degree may be granted after submission of a Master’s thesis. The Ph.D. degree requires completion of a dissertation after final examinations. 

For additional information please visit the department’s website at: http://www.brown.edu/Departments/Egyptology/.

Courses of Instruction

For Undergraduates and Graduates

120, 121. (1200, 1210) Archaeology of Ancient Egypt
A general survey of the archaeology of ancient Egypt in prehistoric and Pharaonic times. Covers such areas as the development of private and royal funerary monuments, private and royal dwellings, and temples. Attention is also paid to the principles of Egyptian art and architecture and, where appropriate, to archaeological connections with the surrounding cultures. Offered in alternate years. THE STAFF.

131, 132. (1310, 1320) Introduction to Classical Hieroglyphic Egyptian Writing and Language (Middle Egyptian I,II)
Much of this two-semester sequence is spent learning the signs, vocabulary, and grammar of one of the oldest languages known. By the end of this introductory year, students read authentic texts of biographical, historical, and literary significance. The cornerstone course in the Department of Egyptology—essential for any serious work in this field and particularly recommended for students in archaeology, history, classics, and religious studies. No prerequisites. L. DEPUYDT.

133. (1330) Selections from Middle Egyptian Hieroglyphic Texts
Prerequisite: EG 131, 132. May be repeated once for credit. L. BELL.

134. (1340) Selections from Middle Egyptian Hieratic Texts
Prerequisite: EG 131, 132. May be repeated once for credit. L. BELL.

141. (1410) Ancient Egyptian Literature
A survey of one of the most intriguing aspects of ancient Egyptian culture. Readings (in translation) of many of the most significant literary documents that survive from Egypt. Presentation of a reasonable amount of historical perspective. Class discussions concerning the nature, purpose, quality, and effectiveness of the works read. Two term papers. No prerequisites. Offered in alternate years. THE STAFF.

142. (1420) Ancient Egyptian Religion and Magic
An overview of ancient Egyptian religion from both a synchronic and diachronic perspective. Examines such topics as the Egyptian pantheon, cosmology, cosmogony, religious anthropology, personal religion, magic, and funerary beliefs. Introduces the different genres of Egyptian religious texts in translation. Also treats the archaeological evidence which contributes to our understanding of Egyptian religion, including temple and tomb architecture and decoration. Midterm and final exams; one research paper. THE STAFF.

143. (1430) History of Egypt I
A survey of the history and society of ancient Egypt from prehistoric times to the Second Intermediate Period, ca. 5000–1550 B.C.E. Primarily concerns the internal political and social history of Egypt, but also emphasizes Egypt’s relations with Nubia, Western Asia, and the Aegean World. Readings include translations of original documents illustrating
various aspects of Egyptian civilization such as literature, the theory of government, and Egyptian historiography. THE STAFF.

144. (1440) History of Egypt II
Continuation of EG143 (not a prerequisite). Examines the rise and fall of ancient Egypt as an imperial power, ca 1550–1000 B.C.E., the first age of internationalism in world history. International relations include extensive contacts with the Mitannian, Hittite, Assyrian, and Babylonian empires. Translations of original documents are used to define such elements of Egyptian civilization as its legal system, economic theory, and the use of oracles in everyday life. THE STAFF.

145. (1450) History of Egypt III, Libyans, Nubians, and Persians in Egypt†
Continuation of EG 143, 144 (not prerequisites). Covers the Third Intermediate and Late Periods (ca. 1000–332 B.C.E.), from the end of the New Kingdom to Alexander’s conquest. Characterized by internal conflict and long intervals of foreign domination, this era is often described as a period of decline, but closer study shows it to be eventful and rich in documentation. Offered in alternate years. THE STAFF.

146. (1460) History of Egypt IV. The Age of Cleopatra
Continuation of EG 143, 144, and 145 (not prerequisites). A survey of the history and society of ancient Egypt from Alexander’s conquest to the Arab Conquest, ca. 332 B.C.E.–A.D. 600. Covers the Ptolemaic (323–30), Roman (30 B.C.E.–ca. A.D. 300), and Byzantine (ca. A.D. 300–640) periods. Focal point and pivot is the Ptolemaic period, from Alexander the Great to Cleopatra (332–30 B.C.E.). Offered in alternate years. THE STAFF.

150. (1500) Ancient Egyptian Art and Architecture
Ancient Egyptian art and architecture had a remarkably long history, and much that was produced is amazingly well preserved. A number of experts present various topics including monumental buildings and lavishly decorated tombs, as well as the sculpture, painting, and minor arts of all periods from Predynastic to Nubian. Prerequisite: previous course work in Egyptology (e.g. EG 143 or 144) or written permission of the instructor. F. FRIEDMAN.

151. (1510) Ancient Egyptian Art II
Considers the art of ancient Egypt’s New Kingdom or Empire Period (1500–1100 B.C.E.). The relief carving and painting of Theban temples and tombs are studied in detail, and the developments leading to the revolutionary Amarna style of art is carefully analyzed. Decorative arts, Tutankhamun’s treasures, and recent exciting discoveries are all surveyed. F. FRIEDMAN.

191, 192. (1910, 1920) Senior Seminar
Primarily for Graduates

221. (2210) Introduction to Coptic
Coptic, the last stage of the ancient Egyptian language, was written with essentially Greek alphabetic characters. An introduction to Sahidic, which is perhaps the best represented of the Coptic dialects. Sahidic grammar is explained, and some texts, mainly of a biblical and patristic nature, are read. Open to undergraduates with the consent of the instructor. No prerequisites, but a knowledge of Middle Egyptian or Greek would be helpful. L. DEPUYDT.

231. (2310) History of the Ancient Egyptian Language
Diachronic survey of ancient Egyptian from Old Egyptian through Coptic, covering changes in phonology and grammar and analyzing the processes through which these
changes took place. Course requirements are short research papers to be presented in class and a final examination. Previous course work in at least one stage of the Egyptian language required; knowledge of Late Egyptian, Demotic (grammar) or Coptic preferable. J. P. Allen.

241. (2410) Late Egyptian
Prerequisites: EG 131, 132. The Staff.

261. (2610) Introduction to Demotic
Grammar and script of this late stage of Egyptian are first explained and practiced. Reading of texts such as The Instructions of Onkhseshonkh and The Story of Setne Khaemwas follow. Knowledge of Demotic is essential for a proper understanding of Egypt in the Saitic, Persian, Ptolemaic, and Roman periods. Open to undergraduates with consent of instructor. Prerequisites: EG 241 or 221. L. Depuydt.

281. (2810) Old Egyptian
Prerequisites: EG 131, 132. L. Depuydt.

289. (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. No course credit. The Staff.

291, 292. (2980) Reading and Research

299. (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. No course credit. The Staff.

Engineering

Professors Bearer, Beresford, Bower, Breuer, Briant, Calo, Chason, Clifton, Cooper, Crawford, Crisco, Curtin, Freund, Gao, Hurt, Kim, Kinia, Kumar, Liu, Maris, Mathiowitz, Maxey, Needleman, Nurmikko, Paine, Preparata, Richardson, Sheldon, Silverman, Stauber, Xu; Professors (Research) Lysaght, Mundy; Professors Emeriti Caswell, Dobbins, Glicksman, Hazeltine, Karlsson, Pearson, Sibulkin, Taue, Weiner, Wolovich; Adjunct Professors Durfee, Lawandy; Associate Professors Bahar, Blume, Daniels, Fleming, Jay, Morgan, Palmore, Powers, Shenoy, Sun, Swartz, Taubin, Webster, Zaslavsky; Associate Professor (Research) Rankin; Adjunct Associate Professors Fleeter, Hradil; Assistant Professors Dworak, Gudaru, Hoffman-Kim, Reda, Sumer, Tang, Tripathi, Zia; Assistant Professors (Research) Haberstroh, Song; Adjunct Assistant Professor Cardiechi; Senior Lecturers Bull, Patterson; Senior Research Engineers Gao, Jibitsky, Kulaots, McCormick; Adjunct Lecturer DeFrancesco, Mittlemann, Odeh; Lecturer Emeritus Hermann; Executive Officer Congdon.

Since engineering is a continuously evolving profession, the Brown University Engineering Undergraduate Curriculum emphasizes an in-depth understanding of the fundamentals of physical and chemical science, mathematics, and engineering science which underlie technical work in all fields of engineering. The Curriculum consists of a common four semester program called the core program, required of all Sc.B. candidates in Engineering, and upper level programs in the areas of engineering specialization. The first year of the core program includes instruction in physical sciences, chemistry, mathematics, and engineering, including computer skills. The remainder of the core
program includes courses in materials science, mechanics of deformable bodies, thermodynamics, electricity and magnetism, optics, electrical circuits and signals, and applied mathematics. The emphasis on fundamentals provides preparation for dealing with the rapid pace of technological change and with the interdisciplinary demands of modern engineering design and analysis. In addition, a broad exposure to the engineering sciences prior to selection of an area of specialization enables a student to make a well-informed choice of the branch of engineering in which he or she wishes to specialize. ABET-accredited Sc.B. degree programs are offered in biomedical, chemical, civil, computer, electrical, materials, and mechanical engineering. Other concentration programs leading to the Sc.B. or A.B. in Engineering may be designed by individual students in consultation with a faculty advisor in order to meet particular education objectives.

The Division of Engineering offers courses of graduate study leading to the degrees of Sc.M. and Ph.D. These programs are available in the general fields of biomedical engineering; electrical sciences; fluid, thermal, and chemical processes; materials science; and the mechanics of solids and structures. Interdepartmental programs are easily arranged with the Division of Applied Mathematics, Departments of Chemistry, Computer Science, Geological Sciences, and Physics. A Master of Science in Innovation Management and Entrepreneurship is offered by the Division of Engineering.

Well-equipped laboratories are available for both research and instruction in each of the above fields. The Prince Engineering Laboratory houses many of the experimental facilities, including subsonic wind tunnels; a fluid-thermodynamics laboratory; a chemical engineering laboratory that includes facilities for study of combustion, reaction kinetics, carbon materials, and environmental technology; and part of the laboratories of applied mechanics which include facilities for studies of stress wave propagation and impact phenomena, general stress analysis, creep of metals and plastics, fatigue and fracture of solids, and soil mechanics. Facilities for work in materials science include laboratories for materials preparation, x-ray diffraction, transmission and scanning electron microscopy, optical and infrared spectroscopy, and electron microprobe analysis. There is also a microelectronics facility, and laboratories for molecular beam epitaxy and quantum electronics, nuclear magnetic resonance, and low-temperature transport measurements. The computer engineering laboratory is dedicated to undergraduate and graduate research on advanced computer architectures, computer vision, automatic speech recognition, microphone-array systems, digital control systems, computer graphics, and digital signal processing. The Division of Engineering maintains several clusters of high performance computers. The two largest are dedicated to research in computational mechanics and to research in computer engineering/digital systems. An integrated computer workstation facility is available to the undergraduates for instruction and project use in the Charles H. Giancarlo Engineering Laboratories. This facility also houses many of the undergraduate teaching labs. Library facilities are provided by the Sciences Library which contains an outstanding collection of books and periodicals in mathematics, physics, engineering, geology, biology and chemistry.

The Barus and Holley Building houses both the Division of Engineering and the Department of Physics. The building contains additional engineering laboratories as well as offices for faculty and graduate students.

**Undergraduate Programs**

For a complete description of the following standard concentration programs leading to the bachelor’s degree, please visit:
http://www.brown.edu/Administration/Registrar/concentration.html
Honors: At the time of graduation, the University grants a degree with honors to any student whose work in his or her field of concentration has been superior and who has prepared an honors thesis of distinction based on independent work. The designation “Honors” is included on the transcript and diploma. Students who have a strong academic record and who wish to be candidates for honors in engineering should consult with the honors supervisor in the Division of Engineering during their junior year. Admission into the engineering honors program will be decided on the basis of a student’s academic record in his or her chosen engineering concentration and a one-page project proposal. The proposal will be developed in conjunction with an engineering faculty member who is willing to supervise the experimental or analytical project. A written thesis and an oral examination based on the work are required near the end of the senior year. Course credit for work done as an honors project can be received by concurrently registering for EN 195 and/or 196.

Graduate Programs

Master of Science in Engineering

Thesis Option: Candidates must complete a coherent plan of study consisting of eight advanced or graduate level courses and an acceptable thesis. The thesis must be sponsored or cosponsored by a member of the faculty of the Division of Engineering. Two of the required courses are EN 201, 202 (Mathematical Methods in Engineering and Physics I, II) or their equivalent and no more than two 100-level courses may be used to fulfill the Sc.M. course requirements. In addition, students are required to complete at least two 200-level courses in the Division of Engineering other than EN 297, 298 (Special Projects: Reading, Research and Design).

Non-Thesis Option: Candidates must complete a coherent plan of study consisting of eight advanced or graduate courses, two of which must be EN 201, 202 or their equivalents, and at least three must be 200-level engineering courses excluding EN 297, 298. A maximum of one course credit toward the Sc.M. degree will be allowed for either EN 297 or 298, but not both, in the non-thesis option. Up to three 100-level engineering or other approved science courses may be offered for this option. There is no residency requirement but all work toward the master’s degree must be completed within five years. The proposed program of study must be approved by the graduate representative of the Division of Engineering.

Master of Science in Innovation Management and Entrepreneurship Engineering

The Program in Innovation Management and Entrepreneurship (PRIME) Engineering merges engineering science and design with innovation science and entrepreneurship. Students experience the process of value creation of high technology, embryonic ideas to the marketplace. Students must complete a focused core of courses, which include EN 211 and EN 212, Business Engineering Fundamentals I and II, EN 213 and EN 214, Innovation and Technology Management I and II, EN 291 S38 Topics in Emerging and Breakthrough Technologies (or an advisor approved 200-level engineering science course), and EN 292 S39 Globalization Immersion Experience and Entrepreneurship Laboratory. The student
must also complete a practicum component where they complete EN 297 or EN 298 Special Projects, Reading, Research and Design course with an advisor of their choosing, and leverage this experience in EN 292 S26 Innovation and Entrepreneurship to create value out of the underlying engineering and science developed in EN 297 or EN 298. Any modifications of this program must be approved in advance by the PRIME advisor. The curriculum can be completed in two semesters.

Doctor of Philosophy

Candidates for the Ph.D. must complete an individualized, but coherent program of study leading to the submission of a dissertation embodying original research. Incoming Ph.D. students are strongly encouraged to arrange meetings with individual faculty members during their first semester in residence and to select a research advisor shortly thereafter. At that point, the student, with the approval of his or her advisor, shall devise an appropriate program of study ensuring breadth of knowledge as well as depth of knowledge in a major area that supports the planned dissertation research. The normal residence requirement for the Ph.D. degree is the equivalent of three years of full-time study beyond the bachelor’s degree (i.e. 24 tuition units). At least two semesters beyond the master’s degree must be spent exclusively in full-time study at Brown, although most engineering Ph.D. students spend four to five years in residence at Brown.

Annual Review: The progress of Ph.D. students is reviewed early in the program of study and on a regular annual basis thereafter. Each year during Semester II, the graduate committee of the Division of Engineering meets and reviews the academic progress of each of the division’s graduate students. Prior to this annual review, the group graduate representatives will solicit input from individual advisors on the status of each continuing student. The result of the graduate committee’s review will be communicated to each student in writing. The individual research groups may supplement the annual review with their own internal procedures (progress seminars, reports, etc.) and students should consult the graduate representative in their group for details. For students with poor performance in coursework or research, the advisor or group graduate representative can at any time request a decision from the graduate committee on whether the student will be allowed to continue. The graduate committee will make a recommendation based on the student’s transcripts and advisor’s report on research progress, if any.

Preliminary Examination: To establish Ph.D. candidacy, students must pass a preliminary examination. The preliminary examination follows the completion of a major portion of the course work and must be completed before the end of the sixth semester in residence. Students who have not taken the preliminary examination shall not be allowed to register for semester seven without special approval of the graduate committee. Students should consult the graduate representative in their respective research group for information about the format of the exam, which may be written, oral, or combined depending on the group. Students are responsible for scheduling this examination, while the Office of Student Affairs is responsible for providing a written reminder to all participants and a general invitation to the faculty. The exam results, together with the student’s transcript, and advisor’s report on research progress, if any, will be used by the individual faculty groups to make a recommendation on the Ph.D. candidacy of each student. The group graduate representative will present the recommendations to the division’s graduate committee for approval.
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**Breadth Requirement:** Ph.D. degree recipients are required to demonstrate both depth and breadth of knowledge. To help ensure sufficient breadth, the student must show proficiency in one or two minor subjects taught outside the division, or within the division but outside the research group in question. Each research group defines its own mechanism to ensure this breadth requirement is fulfilled, either by oral examination (as part of the preliminary exam) or by the achievement of passing grades in course work, taken at anytime during the Ph.D. program. The choice of minor area(s) is to be made by the student in consultation with the thesis advisor and the group graduate representative.

**Dissertation and Final Examination:** Candidates for the Ph.D. degree are also ultimately required to complete a dissertation that embodies original research and significant creative thought and gives evidence of high scholarship. They then must pass a final examination, which entails an oral defense of their research work. The dissertation and the oral defense must be approved by the faculty advisor, one other member of the engineering faculty, and one additional reader outside the division, or within the division but outside the research group, as appointed by the director of the engineering graduate programs in consultation with their faculty advisor.

The maximum number of courses that may be transferred for the Ph.D. degree is eight and the maximum residence equivalence that can be granted is one year. Students entering from abroad with advanced degrees should establish Sc.M. equivalency by the end of their first year in residence. Forms for this purpose are available from the registrar’s office.

**Special Graduate Programs:** Students may petition the Graduate Committee of the division if they wish to follow special advanced programs of study. In such a case, the petition must have the sponsorship of three faculty members, at least one of whom shall be from the Division of Engineering. When a significant amount of work is taken in another division or department, one faculty member from each division or department must act as a sponsor.

For additional information please visit the department’s website at:
http://www.engin.brown.edu/index.htm

**Courses of Instruction**

Primarily for Undergraduates

2. (0020) *Transforming Society- Technology and Choices for the Future*
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.

3. (0030) *Introduction to Engineering*
An introduction to various engineering disciplines, thought processes, and issues. Topics include computing in engineering, engineering design, optimization, and estimation. Case studies in engineering are used to illustrate engineering fields and scientific principles, including in-depth studies of statics and optics. Laboratories and design projects are included. Corequisite: MA 10 or MA 19. S/NC.

4. (0040) *Dynamics and Vibrations*
Study of the kinematics and dynamics of particles and rigid bodies. Principles of motion of mechanical systems. Concepts of inertia, work, kinetic energy, linear momentum, angular
momentum, and impact. Applications to engineering systems, satellite orbits, harmonic vibrations of one and two degree of freedom systems. Lectures, recitations, and laboratory. Prerequisite: EN 3. Corequisite: MA 20 or 10.

9. (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. Enrollment limited. Written permission required.

12. (0120) First Year Seminar
(0120A) Crossing the Space Chasm Through Engineering Design
Interested students should submit an essay describing their interest in the course to the instructor at rick_fleeter@brown.edu. Enrollment limited. Written permission required.

23. (0230) Surveying
Theory and practice of plane surveying; use of the tape, level, transit, stadia, and plane table; triangulation and topography. Lectures, field work, and drafting. Recommended for students interested in civil engineering. Hours required, about 10 hours. No course credit. S/NC. No course credit.

26. (0260) Mechanical Technology
A basic machine shop course that, with the help of an instructor, teaches students how to fabricate a few simple objects using hand tools and some basic machines. This course is designed to introduce the student to the machining process and environment. S/NC. No course credit.

31. (0310) Mechanics of Solids and Structures
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. Prerequisites: EN 3; AM 33.

41. (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, optical, and magnetic properties of materials; strengthening mechanisms in solids and relationships between microstructure and properties; corrosion and oxidation. Lectures, recitations, laboratory. Prerequisites: EN 3; CH 33 (or 10); AM 33.

51. (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: EN 3, 4; MA 20 (or 18). Corequisite: AM 33 or equivalent.

52. (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, including the effects of sampling and windowing in computer simulations. Other topics include transient analysis, Fourier series, and Laplace transform. Laboratories apply concepts to real problems in audio and controls. Lectures, recitation, and laboratory. Prerequisite: AM 33.

72. (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: EN 3, 4.

81. (0810) Fluid Mechanics

90. (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: EN 9 or MA 10.

93. (0930) Technology and Society Course Series
Primarily for students in the liberal arts; no scientific or mathematical background is required.

For Undergraduates and Graduates

100. (1000) Projects in Engineering Design
Projects in design for concentrators in chemical, electrical, materials, and mechanical engineering. Students generally 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. Prerequisite: completion of engineering core program.

101. (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. This course will present this entrepreneurial process through case studies that illustrate essential elements of an entrepreneurial framework, and will introduce successful entrepreneurs and expert practitioners who will highlight practical approaches to entrepreneurial success. Enrollment limited. Written permission required.

111. (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.
112. (1120) Chemical Reactor Design
Chemical kinetics, mechanisms, and the reaction rate expression in homogeneous and heterogeneous systems. Basic concepts in homogeneous reactor design and ideal reactor models. Optimization. Temperature and energy effect in chemical reactors. Non-ideal chemical reactor design. Introduction to heterogeneous chemical reactor design. Co- or prerequisite: EN 81, 113. Offered in alternate years.

113. (1130) Phase and Chemical Equilibria
Application of the first and second laws of thermodynamics and conservation of mass to the analysis of chemical and environmental processes, phase and chemical equilibria and partitioning of species in multiphase, nonreactive and reactive systems. Thermodynamic properties of fluid mixtures—correlation and estimation. Applications and examples drawn from chemical processing and environmental problems. Prerequisite: EN 72.

114. (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. Corequisites or prerequisites: EN 111, 113; or co-prerequisite EN 112.

121. (1210) Biomechanics

122. (1220) Neuroengineering: Control of Eye Movement
Modelling eye movements with computer math (Simulink). Vestibuloocular reflex (VOR), saccades, optokinesis, smooth pursuit and vergence. Sensory systems: visual perception of motion, and vestibular canal mechanics. Adaptive gain control for VOR and saccadic dysmetria. Students incorporate principles of feedback compensation (negative and positive) in their models.

123. (1230) Instrumentation Design

130. (1300) Structural Analysis

131. Planning and Design of Systems (Applied Mathematics 121)
Interested students should register for Applied Mathematics 121.

134. (1340) Water Supply and Wastewater Treatment
The hydrological cycle, surface water hydrology, ground water hydrology. Emphasis on the formulation of mathematical models of various flow problems and their solution by analytical or numerical means. Typical problems: open channel and river flows; flood routing; ground water flow in aquifers and into wells. Topics in wastewater treatment plant
design: mixing, residence time, aeration, and bacteriological and chemical treatment processes. Prerequisite: EN 81.

136. (1360) Soil Mechanics and Principles of Foundation Engineering
Classification and identification of geological materials; mechanical and physical properties and methods of testing. Elements of the analysis of stress and strain in rock and soil masses; theories of failure, theory of seepage. Problems of building foundations; consolidation and settlement; stability of earth slopes and embankments. Includes geotechnical laboratory. Prerequisite: EN 31.

137. (1370) Advanced Engineering Mechanics (Applied Mathematics 125)
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: EN 4, AM 34, or equivalent.

138. (1380) Design of Civil Engineering Structures
This course provides an introduction to the design of steel and reinforced concrete structures using ultimate strength methods. Lectures will cover key concepts of design theory, building codes, and standards using examples from real structures. Students will apply concepts through computer labs, homework problems, and a design project. Lectures plus lab. Prerequisite: EN 130.

140. (1400) Analytical Methods in Biomaterials
Analytical methods and instrumentation currently used to characterize biomaterials. Specific methods/instrumentation covered include: molecular scale analysis (NMR, FTIR, UV-Vis spectroscopy); surface analysis (AFM, SEM, XPS, contact angle goniometry, ellipsometry, quartz crystal microbalance, electrochemistry, grazing angle IR); bulk analysis (DSC, mechanical testing) and biological analysis (bioassays, fluorescence and confocal microscopy). Prerequisites: CH 33, CH 35; EN 4; and BI 20.

141. (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: EN 41, 72.

142. (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: EN 41, 72, 141 or equivalent.

144. (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: EN 41.

145. (1450) Properties and Processing of Electronic Materials
Focuses on the science of electronic materials, the materials at the heart of modern microelectronics and optoelectronics. Addresses fundamental issues controlling their properties, processing, and reliability. Topics include band structure of semiconductors,
basic devices structures (junctions and transistors), sputter deposition, molecular beam epitaxy, chemical vapor deposition, ion implantation, oxidation, and issues affecting reliability. Materials challenges that must be resolved for future generations of electronic devices.

147. (1470) Structure and Properties of Nonmetallic Materials
A study of the structure and properties of nonmetallic materials such as glasses, polymers, elastomers, and ceramics. The crystal structure of ceramics and polymers, and the noncrystalline networks and chains of glasses, polymers, and elastomers and the generation of microstructures and macrostructures are considered. The mechanical, chemical, electrical, magnetic, and optical properties and their dependence on structure are developed. Laboratory. Prerequisite: EN 41.

148. (1480) Metallic Materials
The microstructure of metals, microstructural evolution during processing, and the relationships between the microstructure and the physical properties of the material. Crystallography and x-ray diffraction. Crystalline defects, dislocations, grain boundaries, and their effects on mechanical and other properties. Solid state diffusion and solid state phase transformations. Oxidation and corrosion. Laboratory. Prerequisite: EN 41, 141.

149. (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.

151. Information Theory (Applied Mathematics 171, Computer Science 185)
Interested students should register for Applied Mathematics 171.

156. (1560) Applied Electromagnetics
Applied engineering concepts in contemporary electromagnetics, with emphasis on microwave and guided wave (fiber) optics. A review of electromagnetic wave propagation in free space, followed by treatment of guided wave concepts. Topics include electrical transmission lines, microstriplines, directional couplers, other microwave guided wave components, and wiring limits on a microelectronic chip. Prerequisite: EN 51 or PH 47 or equivalent good first course in Electricity and Magnetism.

157. (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: EN 52.

158. (1580) Communication Systems
Analysis and design of modern digital communication systems. Includes: sampling theorem; entropy measure of signal information content; pulse code modulation; amplitude and single sideband modulation; review of probability theory; stochastic processes and their use in communication systems; detection of signals buried in noise; communication channel capacity; coding principles; communication networks. Laboratory projects. Prerequisite: EN 157; AM 165 or MA 161 helpful but not required.
159. (1590) *Introduction to Semiconductors and Semiconductor Electronics*
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 p-n junctions and quantum wells. Other junctions such as Schottky barriers and MOS structures are treated. Prerequisites: EN 41 and 51.

160. (1600) *Design and Implementation of Very Large-Scale Integrated Systems*
Structured top-down design of complex digital systems, including behavioral synthesis, hardware description languages, boolean logic synthesis and minimization, silicon compilation, automatic floor planning and layout, and performance simulation. Laboratory work based on a complete VLSI design toolset and student chip-design projects. Prerequisite: EN 163.

161. (1610) *Image Understanding*
Image processing is a technology experiencing explosive growth; it is central to medical image analysis and transmission, industrial inspection, image enhancement, indexing into pictorial and video databases, e.g., WWW, and to robotic vision, face recognition, and image compression. This senior-level undergraduate course covers theoretical underpinnings of this field and includes a series of practical MATLAB image processing projects.

162. (1620) *Analysis and Design of Electronic Circuits*
Elementary device physics and circuit characteristics of semiconductor diodes, bipolar junction transistors (BJTs), and field effect transistors (FETs). Analysis and design of practical circuits using discrete semiconductor devices. Constraint on and techniques for linear integrated circuit (IC) design and the use of linear ICs as circuit building blocks. Laboratory. Prerequisites: EN 51, 52 or equivalent.

163. (1630) *Digital Electronics Systems Design*
Fundamentals of digital logic design including: Boolean algebra, gates, truth tables, logic families, flip-flops, counters, memory, and timing. Advanced topics include A-D conversion, binary arithmetic, programmable logic (FPGAs and CPLDs), and hardware description languages (VHDL/ABEL). Extensive laboratory requirement. Permission required for sophomores.

164. (1640) *Design of Computing Systems*
Architectures of computers with particular reference to current microprocessors, traditional computers, and vector and parallel processors. Ideas discussed include floating point arithmetic units, advanced computer arithmetic, RISC architectures, advanced memory structures, pipelining, I/O concepts, bussing, synchronous and asynchronous concepts, instruction set design, parallel processors, vector machines, computer architecture classification, high speed data transmission, and error correcting codes. Laboratory. Prerequisite: EN 163 or written permission.

168. (1680) *Design of Semiconductor Devices*
Contemporary practice in the design and fabrication of discrete and solid state devices. The realization of basic analog and digital circuit functions in semiconductor silicon is a central theme in a coordinated lecture and laboratory course. Topics include microcircuit photolithography; layout and design scaling rules for integrated circuits; and techniques in semiconductor and thin film processing as they apply to large-scale integrated circuit manufacture. Prerequisite: EN 159 or permission.
169. (1690) *Modern Optoelectronics and Laser Applications*

170. (1700) *Applied Thermodynamics*
Control volume formulations of thermodynamic principles applied to the study of compressible fluids as working fluids in engines and thermodynamic devices. Applications include compressors and turbines, gas turbines, jet, ramjet and rocket engines, steam plants, refrigeration, and internal combustion engines. Combustion and flames are also considered. Prerequisites: EN 72 and 81.

171. (1710) *Heat and Mass Transfer*

172. (1720) *Design of Engines and Turbines*

174. (1740) *Computer Aided Visualization and Design*
Provides instruction in the application of computers to the design methods in engineering. Hands-on experience in use of CAD/CAE software packages for geometric modeling, visualization, and drafting. Emphasis on applications to solids and structural problems. Independent design projects are carried out. Course counts as an ABET upper-level design course for mechanical and civil engineering concentrators. Prerequisite: EN 31. Enrollment limited. Written permission required.

175. (1750) *Advanced Mechanics of Solids*

176. (1760) *Machine Design*
Design of mechanical devices utilizing techniques developed in EN 175. Additional subjects include material failure criteria, vibration of multimass systems, and control systems. Prerequisite: EN 137 plus 175, which may be taken concurrently.

186. (1860) *Advanced Fluid Mechanics*
Aims to give mechanical engineering students a deeper and more thorough grounding in principles and basic applications. Topics include review of the conservation principles; inviscid flow; viscous flow, including aerodynamics lubrication theory; laminar boundary
layers; wave motions and wave drag. Lectures, assignments, computational projects, and laboratory. Prerequisites: EN 72 and 81.

190. (1900) Construction of the Entrepreneurial Enterprise Framework: From Decision Making to Opportunity Creation
Students examine and engage with the decision making process in the modern enterprise, including investment, negotiation, and opportunity creation. This is done in an entrepreneurial context. Teams research and present orally and in writing on major class themes. Case studies, Socratic discussion models, readings, guest lectures, rhetoric and writing fellows support for videotaped oral and written business plans are utilized. Enrollment limited. Written permission required.

193. (1930) Special Topics in Engineering

194. (1940) Special Topics in Engineering

Written permission and topic description required.

Primarily for Graduates

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.

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.

211. (2110) Business Engineering Fundamentals I
Examines core concepts in distinct areas through three modules: (1) intellectual property and business law, (2) technical marketing and (3) finance. All aspects of intellectual property will be treated, models on how to analyze markets will be discussed, culminating in a finance module which utilizes accounting fundamentals and models to perform financial analysis.

212. (2120) Business Engineering Fundamentals II
Examines core concepts through three modules: (1) organizations, leadership and human capital, focusing on the attributes of effective leadership and the tactical operation of start-up companies; (2) implementing radical technology changes, centering on disruptive technologies and their adaptation in the marketplace; and (3) engineering ethics, which treats the issues that arise in small start-up organizations with an emphasis on the interface of ethics and environmental, health and safety issues.

213. (2130) Innovation and Technology Management I
Examines core concepts through three modules: (1) engineering management, which covers the practices of administering engineering and science activities, including planning and analysis; (2) financial engineering, which demonstrates the power of the finance-engineering interface where robust mathematical models can be adapted to the business
environment; and (3) managerial statistics, focusing on the sophisticated treatment of statistics as applied to market intelligence, project management, and financial models.

214. (2140) *Innovation and Technology Management II*
Examines core concepts through three modules: (1) research and development management, which addresses issues associated with planning a new entrepreneurial venture; (2) quality planning, forecasting, and project management, emphasizing models of planning, scheduling and controlling a high technology engineering project; and (3) principles of operations research, which provides quantitative tools useful in inventory theory, forecasting and decision analysis.

221. (2210) *Foundations of Continuum Mechanics*

222. (2220) *Mechanics of Solids*

224. (2240) *Linear Elasticity*


227. (2270) *Advanced Elasticity* (Applied Mathematics 235)

229. (2290) *Plasticity* (Applied Mathematics 237)
Theory of the inelastic behavior of materials with negligible time effects. Experimental background for metals and fundamental postulates for plastic stress-strain relations. Variational principles for incremental elastic-plastic problems, uniqueness. Upper and lower bound theorems of limit analysis and shakedown. Slip line theory. Representative problems in structural analysis, metal forming, indentation, strain and stress concentrations at notches, and ductile failure.

232. (2320) *Experimental Mechanics*
The design and evaluation of experiments in solid mechanics. Considers methods for experimental stress analysis and for the mechanical testing of materials. Topics covered include photoelasticity, creep and relaxation tests, high-speed testing, stress wave propagation, fatigue, and fracture. Techniques, instrumentation, and recording systems for
the static and dynamic measurement of mechanical parameters such as forces, displacements, velocities, accelerations, and strains.

234. (2340) *Computational Methods in Structural Mechanics*

237. (2370) *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.

238. (2380) *Fracture Mechanics*

240. (2400) *Electron Microscopy in Materials Science*
Theory of electron optics and principles of transmission electron microscopy, including dynamical theory of electron diffraction and image contrast. Applications to materials analysis including defect, boundary, and phase analysis. Analytical electron microscopy including convergent beam diffraction, energy dispersive x-ray analysis, and energy loss spectroscopy. Intensive laboratory exercises.

241. (2410) *Thermodynamics of Materials*

242. (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: EN 141 or 241 or equivalent.

243. (2430) *Deformation Behavior of Materials*
Linear elasticity as applied to isotropic and anisotropic materials; yield criteria including Von Mises, Tresca, Mohr-Coulomb, and Hill. Dislocation theory. Mechanisms of hardening. Microstructural models of ductile, intergranular, and cleavage fracture. Toughening mechanisms. Creep. Fatigue. Prerequisites: EN 41 and 144 or equivalent.

249. (2490) *Special Topics in Materials Science*
250. (2500) **Medical Image Analysis**
Explosive growth in medical image analysis has enabled noninvasive methods to diagnose and treat diseases. The course will first discuss the fundamentals of formation of medical images such as CT, MRI, ultrasound, and nuclear imaging; then consider clinical constraints and discuss methods in image guided therapy/surgery, techniques to detect, delineate, measure, and visualize medical organs and structures.

252. (2520) **Pattern Recognition and Computer Vision**
Recognition of the class association of a pattern based on feature measurements. Topics: statistical decision and estimation theories in Euclidean n-space as a framework; linguistic, geometric, and algebraic models for representing complicated pattern data and for pattern recognition; nearest neighbor classification; supervised and unsupervised learning; clustering; artificial neural networks. Applications to computer vision. MATLAB projects.

253. (2530) **Digital Signal Processing**
An introduction to the basics of linear, shift invariant systems and signals. 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.

254. (2540) **Speech Processing**
The basics for speech production and hearing are introduced. PDEs and simplified vocal-tract models are derived. LPC, DFT filterbank and time varying signal processing for speech recognition analysis are discussed in mathematical detail. Dynamic programming, vector quantization, hidden Markov modeling, and neural-network pattern recognition for speech are introduced. Offered every other year.

256. (2560) **Computer Vision**
An interdisciplinary exploration of the fundamentals of engineering computer vision systems (e.g., medical imaging, satellite photo interpretation, industrial inspection, robotics, etc.). Classical machine vision paradigms in relation to perceptual theories, physiology of the visual context, and mathematical frameworks. Selections from Gestalt psychology, Gibsonian approach primate visual pathways, edge-detection, segmentation, orientation-selectivity, relaxation-labeling, shading, texture, stereo, shape, object-recognition.

257. (2570) **Applied Stochastic Processes**
The study of stochastic processes and a number of applications central to electrical engineering. Analysis of continuous and discrete time Gaussian and second order stochastic processes. Stochastic calculus. Innovations and spectral representations. Markov random fields. Applications to Kalman filtering, the detection of signals in the presence of noise, and two-dimensional image processing. MATLAB projects. Prerequisite: an undergraduate level course in probability or statistics.

260. (2600) **Elect Process in Semiconductors**
Electronic processes primarily in semiconductors with tetrahedral bonding (Si, Ge, GaAs compounds). Topics include phonon spectra, band structure, impurity states, electron and hole distributions, optical properties, electron plasma, scattering processes, excess and hot carriers, semiconductor-metal transitions, one-and two-dimensional electron gas, and amorphous semiconductors. Prerequisite: PH 241 or equivalent.
261. (2610) **Physics of Solid State Devices**
Current and proposed semiconductor devices: bipolar transistors (silicon and heterojunction); field effect transistors (MOSFETs, heterostructure, and submicron FETs); hot-electron and quantum-effect devices; and photonic devices (LEDs, semiconductor lasers, and photodetectors). Prerequisites: EN 159 or equivalent introductory device course; some quantum mechanics helpful but not required.

262. (2620) **Solid State Quantum and Optoelectronics**
Incorporates the study of interaction of radiation with matter emphasizing lasers, nonlinear optics, and semiconductor quantum electronics. Q-switching and mode-locking, electro- and acousto-optic interactions, harmonic generation and parametric processes, self-focusing and phase modulation, stimulated Raman and Brillouin scattering, ultrashort pulse generation, nonlinear processes of conduction electrons in semiconductors, bulk and surface polaritons. Prerequisite: EN 260 or equivalent.

263. (2630) **Electro-Optical Properties of Materials and Biomolecules**
Fundamental ideas and principles relevant to the understanding of the electrical and optical properties of materials and bio-molecules are emphasized. The mathematics is deliberately kept to a minimum. Topics include metals, semiconductors dielectric materials, magnetic materials, superconductors, carbon nanotubes, DNA, photosynthesis and redox proteins. Prerequisites: EN 51 and PH 47.

264. **Classical Theoretical Physics II (Physics 204)**
Interested students should register for Physics 204.

266. (2660) **Physics and Technology of Semiconductor Heterostructures**
Covers, largely from an experimental point of view, topics of current interest in semiconductor heterostructure physics and technology; magnetotransport in two-dimensional electron gas; integer and fractional quantum Hall effects; resonant tunneling and superlattice transport; optical and transport properties of quantum wires and dots; heterostructure-based devices; other topics of student interest. Prerequisites: PH 141 or equivalent quantum mechanics, EN 159 or introductory device course helpful but not required.

273. (2730) **Advanced Thermodynamics I (Chemistry 201)**
Fundamental principles of macroscopic equilibrium; thermodynamic stability; Gibbs relations and chemical thermodynamics; applications to various systems, including fluids, solids, and magnetic and dielectric materials. Fundamental principles of macroscopic nonequilibrium thermodynamics (irreversible processes). Entropy production; Curie’s principle; Onsager-Casimir reciprocal relations; applications to transport and relaxation phenomena in continuous systems.

274. (2740) **Advanced Thermodynamics II (Chemistry 202)**
Introduction to the statistical mechanics of equilibrium phenomena for classical and quantum-mechanical systems. Ensemble theory; fluctuations; statistical interpretation of the laws of thermodynamics; applications to ideal gases, chemical equilibrium, simple crystals, magnetic and dielectric materials, radiation, and condensation phenomena.

276. (2760) **Heat and Mass Transfer**
transfer for chemically reacting flows. Radiation. Basic concepts and properties of solids and gases.

281. (2810) *Fluid Mechanics I* (Applied Mathematics 241)
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.

282. (2820) *Fluid Mechanics II* (Applied Mathematics 242)
Introduction to concepts basic to current fluid mechanics research: hydrodynamic stability, the concept of average fluid mechanics, introduction to turbulence and to multiphase flow, wave motion, and topics in inviscid and compressible flow.

289. (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. No course credit.

291. (2910) *Special Topics in Engineering*
292. (2920) *Special Topics in Engineering*
297, 298. (2980) *Special Projects, Reading, Research and Design*
299. (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. No course credit.

**English**

Professors N. Armstrong, P. Armstrong, Blasing, Doane, Emigh, Gould, Kahn, Keach, Landow, McLaughlin, Rooney, Rosen, Russom, St. Armand, Smith, Tennenhouse, Weinstein; Associate Professors Bryan, Denniston, Egan, Foley, George, Katz, Keizer, Kim, Rabb; Assistant Professors Bewes, Burrows, Feerick, Murray, Nabers, Reichman; Senior Lecturers Stanley, Taylor; Lecturer Imbriglio; Adjunct Professor Eder; Adjunct Assistant Professor Flaxman.

**Undergraduate Program**

For a complete description of the standard concentration program leading to the A.B. degree in Literatures and Cultures in English, please visit the department’s website at: [http://www.brown.edu/Departments/English/](http://www.brown.edu/Departments/English/) or visit [http://www.brown.edu/Administration/Registrar/concentration.html](http://www.brown.edu/Administration/Registrar/concentration.html).

**Graduate Programs**

The department accepts candidates for the degrees of Ph.D. and A.M. In addition to the regular Graduate School application, the department requires the Graduate Record Examination (no more than three years old) in both general and advanced subject tests in English for admission to either program.
Master of Arts

The Department of English offers an A.M. degree in literatures and cultures in English. This degree is often sought by students who may wish eventually to pursue a doctorate. The master’s degree may also be awarded to Ph.D. students who wish to receive it in the course of their progress toward the doctorate.

The A.M. degree may be earned in two ways. The program with thesis calls for eight semester courses, one of which may be a thesis research course. These courses should build upon and extend the student’s undergraduate preparation in English and American literature and should reflect some specialized interest. The program may be entirely in English, or may include one related course offered by another department, e.g., history, philosophy, a foreign literature, or another appropriate area. The master’s thesis, which often develops as a consequence of research done in a seminar, is to be a professionally responsible piece of scholarship and criticism, showing mastery of research skills. It is normally 50–100 pages long. A full-time student in this program can complete the work for the A.M. within one calendar year.

The A.M. program without thesis calls for ten courses (requiring a third semester’s residence). Under special circumstances, one of the ten courses may be a reading/research course.

Course Requirements for the A.M. in Either Program:

1. At least one course from each of the following areas:
   - Area I: Medieval and Early Modern Literatures and Cultures
   - Area II: Enlightenment and the Rise of National Literatures and Cultures
   - Area III: Modern and Contemporary Literatures and Cultures
2. At least one course that has been designated theory-intensive. Students may also use a theory-intensive course to satisfy one of the three area requirements listed above.

Language Requirement for Either Program: A candidate for the A.M. should show competence in one foreign language. Normally this is demonstrated by passing a departmental examination.

Doctor of Philosophy

The program of doctoral study is one which a student working as a teaching assistant can complete in six years. The first three years will be devoted to course work, seminars, and fulfilling the requirements in foreign languages. The qualifying examination should be taken and passed by the beginning of the fourth year. The remaining years will be devoted to completing the dissertation and securing employment.

Specializations in the doctoral program are usually grounded in one of the three areas of literatures and cultures in English.

Courses: A full-time doctoral candidate entering with an A.B. will register for six courses during the first year of residence. After the first year, the student will take at least seven additional courses. In the second year at Brown, students who already have an A.M. in English or graduate credit from another institution may transfer up to one year of course work toward the requirements for the Ph.D. at the discretion of the department.

Course Requirements for the Ph.D.

1. At least one course from each of the following areas:
   - Area I: Medieval and Early Modern Literatures and Cultures
   - Area II: Enlightenment and the Rise of National Literatures and Cultures
Area III: Modern and Contemporary Literatures and Cultures

2. During the first year of study, one course that has been designated a theory-intensive course. The theory-intensive course may also be used to satisfy one of the three area requirements listed above.

3. EL 295, Seminar in the Teaching of Literatures and Cultures in English, taken in the fall semester of the second year.

Teaching: The department requires its Ph.D. students to do three years of supervised teaching in the College. A waiver is granted only in special circumstances; for further information, see the department’s Graduate Student Handbook.

Foreign Languages: The foreign language requirement may be met in two ways. The student may show competence in two languages by passing departmental examinations. Alternatively, he or she may pass a department examination in one language, and in addition successfully complete a one-semester graduate course in a language related to the area of specialization from the offerings in literature of the University’s foreign language departments or (in some cases) Comparative Literature. The course may or may not be in the same language offered for departmental examination. The intention is to permit the candidate to determine, with the advice of the department, the language or languages most useful in the proposed area of specialization.

Qualifying Examination: Candidates take the exam soon after the completion of course work and before the submission of a dissertation proposal, by October 15th of the third year. Those who already have an A.M. take the exam in semester I of that year, and begin the steps outlined below one semester earlier.

The qualifying examination is designed to help students focus on critical, historical, and theoretical issues within professionally recognized areas of literary scholarship. It addresses two basic questions: What field do you plan to research and where do you place your work within it? Students will be expected to define their fields in relation to the three fields of literary and cultural research that organize the English department faculty and graduate curriculum. The examination, given by a committee of three faculty members chosen by the candidate, is oral and lasts no more than three hours.

Preparation begins at the end of the first year, when the candidate meets with a faculty committee to discuss the potential area of specialization on which the exam will focus. During the third year, the candidate forms a committee for the exam and meets with them to define further the area of specialization and to form a plan of study. Before taking the exam, the candidate prepares a 25-page statement of the problematics structuring the exam and a 3-page bibliography, agreed upon by her or him and the committee. (See the departmental Graduate Student Handbook for details.)

Dissertation: The doctoral dissertation must be an original work of professional-quality scholarship.

Courses of Instruction

Primarily for Undergraduates

11. (0110) 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. Written permission required. S/NC. C. IMBRIGLIO, L. K. STANLEY and STAFF.

13. (0130) **Critical Reading and Writing II: The Research Essay**
For the confident writer. Offers students who have mastered the fundamentals of the critical essay an opportunity to acquire the skills to write a research essay, including formulation of a research problem, use of primary evidence, and techniques of documentation. Individual section topics are drawn from literature, history, the social sciences, the arts, and the sciences. Writing sample may be required. Enrollment limited. Written permission required. S/NC. E. S. TAYLOR and STAFF.

16. (0160) **Journalistic Writing**
An introduction to journalistic writing that focuses on techniques of investigation, reporting, and feature writing. Uses readings, visiting journalists, and field experience to address ethical and cultural debates involving the profession of journalism. Writing assignments range from news coverage of current events to investigative feature articles and personal columns. Prerequisite: EL 11 or equivalent. Writing sample required. Enrollment limited. Written permission required. S/NC. T. BRETON and STAFF.

18. (0180) **Introduction to Creative Nonfiction**
Designed to familiarize students with the techniques and narrative structures of creative nonfiction. Reading and writing focus on personal essays, memoir, science writing, travel writing, and other related subgenres. May serve as preparation for EL 118. Writing sample may be required. Enrollment limited. Written permission required. S/NC. E. S. TAYLOR, L. K. STANLEY and STAFF.

20. (0200) **Seminars in Writing, Literatures, and Cultures**
Offers students a focused experience with reading and writing on a literary or cultural topic. Requires 18–20 pages of finished critical prose dealing with the literary, cultural, and theoretical problems raised. Course goal is to improve students’ ability to perform close reading and textual analysis. May count as elective credit toward the concentration in English, but may not be used toward fulfillment of the four-course focus or the theory or scholarly area requirements. Enrollment limited. Written permission required.

21. (0210) **Introductory General Topics in Medieval and Early Modern Literatures and Cultures**
These introductory general topics courses are designed to give students a coherent sense of the literary history and the major critical developments during a substantial portion of the period covered by the department’s Area I research field: Medieval and Early Modern Literatures and Cultures. English concentrators are encouraged to take at least one of these courses to apply toward the Area I English concentration requirements.

(0210C) **English Drama 1350–1700** (Theatre, Speech and Dance 50)
This course presents great plays not written by Shakespeare, from the mystery plays of the late Middle Ages through Restoration drama. We will address these questions: What kinds of plays spoke to what kinds of audiences? How do changes in theatrical style relate to social change? How do genre, convention, staging, and acting style shape a dramatic text? C. KAHN.

(0210B) **The Romance of Travel**
Considers the role of the strange, new, and fantastic in travel accounts of the Medieval period and Renaissance. If travel writers offered their stories as “windows to the world,” we will treat them as representations that expose, reinforce, and subvert the
author’s cultural, political, and social attitudes. Works by Marco Polo, Chaucer, Columbus, Ralegh, Rabelais, Shakespeare, and Crusoe. J. FEERICK.

(0210A) *Roots of English Literature to 1600*
A survey of ancient Northwest European poems, sagas, and mythologies that provided the context for the earliest writing in English and remain influential today. Readings include Celtic and Scandinavian as well as English narratives. G. R. RUSSOM.

(0210D) *Matters of Romance†*
Narratives (1100–1500) of men, women, and elves seeking identity on the road, in bed, and at court. Readings (in modern English) include Arthurian romances, Havelok, Iais by Marie de France, and the “Wife of Bath’s Tale.” Primarily for freshmen and sophomores. E. J. BRYAN.

*King Arthur: From Modern Fantasy to Medieval Text†*
Traces the development of the Arthurian myth back to its origins. It is suggested that students read Marion Zimmer Bradley’s *The Mists of Avalon* before classes begin. E. J. BRYAN.

25. (0250) *Introductory Seminars in Medieval and Early Modern Literatures and Cultures*

(0250C) *Literature of Renaissance Colonialism*
Provides an introduction to English colonialist literature, focusing on travel narratives and utopian fictions. Positions English writing on colonialism in relation to earlier Spanish colonizers, the conquest of Ireland, and early plantation in the New World. Authors will include Columbus, Las Casas, More, Ralegh, Spenser, Bacon, Smith, and Milton. For first-year students only. Enrollment limited. Written permission required. FYS J. FEERICK.

(0250E) *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. For first-year students only. Enrollment limited. Written permission required. FYS E. J. BRYAN.

(0250F) *Shakespeare’s Present Tense*
*Shakespeare in Love* suggests how Shakespeare was clued in to elite and popular cultures. Current adaptations like *O* and *10 THINGS I HATE ABOUT YOU* demonstrate how Shakespeare provides anachronistic clues to issues of the present. This course will trace such clues by examining the cultural origins and ongoing adaptations of *Romeo and Juliet*, *Hamlet*, *Othello*, *Twelfth Night*, *Henry V*, and the sonnets. For first-year students only. Enrollment limited. Written permission required. FYS S. M. FOLEY.

40. (0400) *Introductory Special Topics in Medieval and Early Modern Literatures and Cultures*

(0400A) *Introduction to Shakespeare*
This course will explore issues of concern to Shakespeare’s audiences from his time to ours--love, war, race, sex, good and evil--through a representative selection of plays. Lectures will discuss historical contexts, theatrical conditions, and critical strategies. Designed for students beginning college-level study of Shakespeare. Two lectures and one discussion meeting weekly. C. KAHN and L. TENNENHOUSE.
41. (0410) Introductory General Topics in the Enlightenment and the Rise of National Literatures and Cultures

These introductory general topics courses are designed to give students a coherent sense of the literary history and the major critical developments during a substantial period covered by the department’s Area II research field: The Enlightenment and the Rise of National Literatures and Cultures. English concentrators are encouraged to take at least one of these courses to apply to the Area II English concentration requirements.

(0410F) Devils, Demons, and Do Gooders

Who hasn’t struggled with the problem of good and evil? Who hasn’t wondered what lurks in the dark recesses of the soul? We will investigate how Milton, Mary Shelley, Melville, Poe, and Blake, among others, grapple with these fundamental questions of judgment. J. F. EGAN.

(0410D) Fiction from Dickens to James†

An introduction to the fiction of eight major 19th-century authors—four British and four American. Emphasizes the careful reading and interpretation of the novels and short stories in historical context. Authors include Dickens, Poe, Eliot, Melville, Stevenson, Wilde, Twain, and James. Open to students at all levels and from all concentrations. K. MCLAUGHLIN.

(0410E) Foundations of the Novel†

Introduces students to the first stages of novel writing in England and to historical and theoretical issues relating to the novel’s “rise” to the dominant genre of the modern era. Eighteenth-century works of fiction are long; however, texts selected for this course are less long. They include Defoe’s Moll Flanders, Richardson’s Pamela and Fielding’s Joseph Andrews. M. A. RABB.

(0410G) Literature and Revolutions, 1640–1840

Key developments in British and American literature understood in relation to the historical and cultural forces that produced the English Revolution, the American Revolution, the French Revolution, and the Industrial Revolution. Readings in major writers such as Milton, Paine, Blake, Wollstonecraft, Emerson, Barrett Browning, and Dickens, and in some of their non-canonical contemporaries. Focus on the emergence of a transatlantic literary culture. W. KEACH.

(0410H) Mariners, Renegades, and Castaways: American Fiction and the Romance of the Sea

Narratives of the sea have long formed a critical part of writing about the Americas, from Christopher Columbus’s journals to Argentinean writer Juan Jose Saer’s The Witness. This course reads a number of well-known and lesser known American tales of the sea, including Poe’s The Adventures of A. Gordon Pym, Melville’s Moby-Dick, London’s The Sea-Wolf, and Crane’s “The Open Boat.” S. BURROWS.

Mark Twain’s America

A wide reading in late-19th- and early-20th-century American literature through the lens of Mark Twain’s career. Considers Twain’s Huckleberry Finn, Connecticut Yankee, and Pudd’nhead Wilson, among others, and compares them to those by Charles Chesnutt, Crane, Norris, and Edith Wharton. Surveys literary responses to cultural subjects such as modern capitalism, science, and the “color line” in America. P. GOULD.
(0410I) The Politics of Friendship
Considers changing concepts of friendship as a key to major developments in British and American literature from the Renaissance through the 19th century. Special attention given to the ways the literary history of friendship intersects with leading political questions of the day. Shakespeare, Donne, Milton, Defoe, Wordsworth, Keats, Percy and Mary Shelley, Dickens, Poe, Melville, and Henry James. K. McLaughlin.

Writing and English Society, 1789–1832
Readings in British Romantic writing, canonical and noncanonical, emphasizing how historical and political change, philosophical disposition, and subjective consciousness become articulated in verse and prose. Literary representations of and responses to the French Revolution, the Industrial Revolution, the struggle against black slavery. Blake, Wollstonecraft, Olaudah Equiano, William Wordsworth, Dorothy Wordsworth, Coleridge, Percy Shelley, Mary Shelley, Byron, Keats, Clare. W. Keach.

45. (0450) Introductory Seminars in the Enlightenment and Rise of National Literatures and Cultures

(0450D) Fictions of Detection: The American Literature of Crime
This course explores the various ways in which crime and criminal justice are represented in 19th- and 20th-century American literature. Writers to be considered include Poe, Melville, Alcott, Twain, Hopkins, Hammett, Faulkner, Cather, Highsmith, and Wright. For first-year students only. Enrollment limited. Written permission required. FYS D. Nabers.

(0450A) 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. For first-year students only. Enrollment limited. Written permission required. FYS S. Burrows.

(0450E) Inventing America
One of the distinguishing features of American literature may be its seemingly constant struggle with the idea of America itself. For what, these authors wonder, does/should America stand? We will examine the rhetorical battles waged in some major works of American literature over the meaning and/or meanings of our national identity. Authors may include Franklin, Melville, Fitzgerald, and Morrison. For first-year students only. Enrollment limited. Written permission required. FYS J. F. Egan.

(0450B) Lincoln, Whitman, and The Civil War
An introduction to the literature of the American Civil War: Whitman, Lincoln, Melville, Stowe, and other autobiographical and military narratives. For first-year students only. Enrollment limited. Written permission required. FYS P. Gould.

(0450C) Literature of The American South
The South is as much a state of mind as a place on the map, and some of the major figures in American literature have contributed to the making of what we think of when we think of “the South.” Explores the sometimes contradictory but always important meanings of the American South. Authors include Poe, Douglass, and
Faulkner. For first-year students only. Enrollment limited. Written permission required. FYS J. F. EGAN.

60. (0600) Introductory Special Topics in the Enlightenment and the Rise of National Literatures and Cultures

(0600B) The Gothic
The course will investigate the origins and development of Gothic literature from its invention during the eighteenth century to its postmodern forms. We will consider conventional figures (monsters, distressed heroines, moldering castles), common themes (fear, horror, the supernatural, the irrational, the transgressive), and the cultural work they do. Readings include Walpole, Lewis, Radcliffe, Shelley, James, and King. M. A. RABB.

61. (0610) Introductory General Topics in Modern and Contemporary Literatures and Cultures
These introductory general topics courses are designed to give students a coherent sense of the literary history and major critical developments during a substantial portion of the period covered by the department’s Area III research field: Modern and Contemporary Literatures and Cultures. English concentrators are encouraged to take at least one of these courses to apply toward the Area III English concentration requirements.

(0610A) Introduction to African American Literature: 1920-present
(Africana Studies 71, Ethnic Studies 79)
All genres of literature from the Harlem Renaissance to the present, tracing the development of an African American literary tradition. D. L. DENNISTON.

(0610E) Postcolonial Literature
Examines novels, poetry, travel and autobiographical writing, and cultural theory by contemporary writers from former colonies of the British Empire. Writers from Anglophone Africa, the Caribbean, India. Issues include nationalism and globalization; identity and diaspora, individual interiority and collective aspirations, social vision and literary form. Authors include J. M. Coetzee, Amitav Ghosh, Salman Rushdie, Wole Soyinka, Derek Walcott, Zoë Wicomb. O. GEORGE.

(0610C) Twentieth-Century American Fiction
Through detailed readings of a variety of novels from almost every decade, this class explores the various ways fiction responded to what has been called the American century. Our main emphasis will be on the relationship between aesthetic and national representation. Writers will include Wharton, Fitzgerald, Faulkner, Ellison, Kingston, and DeLillo; topics to include realism, modernism, and postmodernism. S. BURROWS.

(0610D) Introduction to Asian American Literature (Ethnic Studies 73)
An introductory survey that familiarizes students with key critical issues that have shaped the study of Asian American writings and provides a sense of the historical contexts out of which these writings emerge. As a literature course, however, it focuses on textual analysis—on how particular works give formal shape to the experiences they depict. D. Y. KIM.

(0610F) Introduction to Modernism (Comparative Literature 71)
An introduction to British modernism, and particularly the novel, with an emphasis on ideas of personal and national history, and on the relationship—literary, cultural, historical and psychological—between constructions of home and abroad. R. REICHMAN.
65. (0650) Introductory Seminars in Modern and Contemporary Literatures and Cultures

(0650L) The African American Novel, from its Beginnings to the Postmodern Moment (Africana Studies 71)
Course explores the African American novel from the mid-19th century to the present, investigating how these works preserve and critique aspects of the genre and its subcategories. As we examine the formal and thematic elements of the novels, we will pay particular attention to the ways in which black folk/popular culture, music, and religious practices make their way into literary works. For first-year students only. Enrollment limited. Written permission required. FYS A. R. KEIZER.

(0650B) Black Atlantic Narratives of Africa (Africana Studies 65, Ethnic Studies 79)
We will study fiction, drama, and autobiography by black writers who have used the motif of a literal or symbolic journey to Africa to explore in powerful ways issues of the trans-Atlantic slave trade, Africa as land and concept, individual and collective memory. Writers will include Maryse Condé, Charles Johnson, George Lamming, Paule Marshall, Toni Morrison, and Derek Walcott. For first-year students only. Enrollment limited. Written permission required. FYS O. GEORGE.

(0650I) The Cyborg Self
Explores the way people map their relation to machines and other forms of technology in cultural theory, cyberpunk sci-fi, hyperfiction, and cinema. Drawing upon Baudrillard, Haraway, and McLuhan, examines notions of the self, virtual realities, cyberspace, gender, and shifting borders between human beings and technology. Works include Neuromancer, Snow Crash, Patchwork Girl, and game-like e-narratives; viewings of Blade Runner and examples of anime. For first-year students only. Enrollment limited. Written permission required. FYS G. P. LANDOW.

(0650C) Englishness and Britishness in Contemporary Fiction
How have writers of fiction responded to recent developments in British political culture? How has the category of Englishness changed during that period? This course offers an overview of some of the most important British writers of the last twenty years and an introduction to theories of culture and ideology. Readings include Ishiguro, Kelman, Caryl Phillips, Zadie Smith. For first-year students only. Enrollment limited. Written permission required. FYS T. R. BEWES.

(0650D) Fantasy
After examining works by Meredith, MacDonald, and Morris, the Victorians of fantasy literature and fantastic worlds, the course will read works by Lovecraft, Dunsany, Lewis, Tolkien, and others. Also looks briefly at fantasy in the visual arts. For first-year students only. Enrollment limited. Written permission required. FYS G. P. LANDOW.

(0650J) The Problem of Women’s Writing
 Combines a survey of British and American women writers with an interrogation of the concept of women’s writing. Authors will include Austen and Bronte, Walker and Viramontes; theoretical topics will include the figure of the author, subjectivity and ideology, the concept of a separate women’s canon or tradition, and the complex differences within “feminine” writing and “feminist” reading. For first-year students only. Enrollment limited. Written permission required. FYS E. F. ROONEY.
(0650H) **Realism and Modernism**

The novel as a genre has been closely identified with the act of representation. What it means to represent “reality,” however, has varied widely. This seminar will explore how the representation of reality changes as modern fiction questions the assumptions about knowing, language, and society that defined the great tradition of realism. For first-year students only. Enrollment limited. Written permission required. FYS P. B. ARMSTRONG.

(0650K) **The Roaring Twenties**

The 1920s helped solidify much of what we consider modern in 20th-century U.S. culture. This course reads literature of the decade in the context of a broader culture, including film and advertising, to think about the period’s important topics: the rise of mass culture and of public relations, changes in women’s position, consumerism, nativism and race relations. Writers include Fitzgerald, Hemingway, Larsen, Toomer, Parker. For first-year students only. Enrollment limited. Written permission required. FYS E. T. KATZ.

(0800) **Introductory Special Topics in Modern and Contemporary Literatures and Cultures**

(0800B) **African American Literature and the Legacy of Slavery** (Africana Studies 81, Ethnic Studies 79)

Traces the relationship between the African American literary tradition and slavery from the antebellum slave narrative to the flowering of historical novels about slavery at the end of the twentieth century. Positions these texts within specific literary, historical, and political frameworks. Authors may include Frederick Douglass, Harriet Jacobs, Charles Chesnutt, Octavia Butler, and Toni Morrison. R. D. MURRAY.

(0800A) **City Novels**

Students read 20th-century novels about the city from the U.S. and England to ask the following questions: How does the city affect the way we grow up, think, move, and see? How is the city divided by class, by race, by gender? Do the novels imagine solutions to these problems? Authors may include Woolf, Dos Passos, Fitzgerald, Wright, Cisneros, Morrison. E. T. KATZ.

(0800C) **Writing War**

Examines the challenge that war poses to representation, and particularly to language and literary expression in the modern era. We’ll focus primarily on the First and Second World Wars, exploring the specific pressures war puts on novels and poetry, as well as on history, psychology, and ethics. Works by Sassoon, Owen, Barbusse, Britain, Woolf, Rebecca West, Graham Greene, Pat Barker, Marc Bloch. R. REICHMAN.

(0910) **Special Introductory Topics in Literatures and Cultures in English**

(0910A) **How to Read a Poem**

Why has poetry, over thousands of years, satisfied a human need for the intensification and ordering of experience through language? Why is poetry significant in our own time? Designed for non-concentrators and concentrators in English who wish to become more adept and frequent readers of poems. Readings from a wide range of poets including Wyatt, Donne, Blake, Yeats, Cummings, Frost, Eliot, Plath, and Heaney. M. A. RABB.
For Undergraduates and Graduates

114. (1140) Critical Reading and Writing III: Topics in Literary and Cultural Criticism
For advanced writers. Situates rhetorical theory and practice in contexts of cutting-edge literary, cultural, and interdisciplinary criticism, public discourse, and public intellectual debate. Individual sections explore one or more of the following subgenres: rhetorical criticism, hybrid personal-critical essays, case studies, legal argument and advocacy, documentary, satire, commentaries, and review essays. Prerequisite: EL 11, EL 13, or equivalent. Writing sample required.

(1140A) The Literary Scholar
To write as a literary scholar or critic, we analyze theoretical and cultural frames through which research and ideas are given shape and significance within the discipline. We generate, research and revise four essays, moving from close reading to inter-textual analysis to grappling with varied sources to explore a literary subject, problem, or artist in an engaging intellectual journey. Enrollment limited. Written permission required. S/NC.

(1140B) The Public Intellectual
Offers advanced writers an opportunity to practice engaged critical writing in personal, academic, and civic modes. Areas of investigation for cultural and literary critique include the review essay, the persuasive essay, the hybrid essay, and documentary. A writing sample will be administered on the first day of class. Enrollment limited. Written permission required. S/NC. C. IMBRIGLIO.

116. (1160) Special Topics in Journalism

(1160A) Advanced Feature Writing
People buy newspapers for various reasons, but nothing provides people with more pleasure than a “good read.” This course helps students develop the skills to spin feature stories that readers stay with from beginning to end. Prerequisites: EL 16. Enrollment limited. Written permission required. S/NC. T. BRETON.

(1160D) The Common Critic
Aimed at the cultivated consumer of books, magazines and newspapers—what has traditionally been called the common reader. Students will attend films, plays, art shows, concerts and dance performances and write weekly reviews based on these experiences. Readings include Orwell, Woolf, Shaw, Kael, Tynan, Clive James, Zbigniew Herbert, and current reviews. Writing sample submitted at first class. Enrollment limited. Written permission required. S/NC. R. EDER.

(1160B) Editors/Producers
On-site workshop for editors/producers of campus journalism that aspires to professional standards. Students must be chosen by peers to edit a campus publication such as the Brown Daily Herald, or to produce a radio show such as “Inside Out.” Enrollment limited. Written permission required. S/NC. E. S. TAYLOR.

(1160C) Radio Nonfiction
Introduction to radio writing and producing. Students find and research stories, interview, draft, edit and fine-tune for radio presentation. Genres include personal narrative, news, profile, and feature. Weekly labs focus on recording equipment, digital editing and mixing, and music use. Final project: half-hour radio feature ready for broadcast. For advanced writers only. Writing sample submitted at first class. Enrollment limited. Written permission required. S/NC. E. S. TAYLOR.
118. Special Topics in Creative Nonfiction
Prerequisite for all sections: EL 11, EL 13, EL 16, EL 18 or equivalent. Writing sample required.

(1180K) The Art of Literary Nonfiction
Based on Roland Barthes’ notion of the fragment, this workshop features an incremental, literary approach to writing nonfiction, in both traditional and experimental formats. In response to daily assignments, students will produce numerous short pieces and three extended “essays,” to be gathered into a chapbook at the end of the course. Enrollment limited. Written permission required. S/NC. C. Imbriglio.

(1180O) Creative Nonfiction in Electronic Media
After looking at the nature of various reading and writing technologies and the way they shape nonfictional texts, we’ll explore a range of nonfictional modes in e-space: mysteries, hypertext, stretchtext, blogs, and so on. We shall, in short, be exploring and inventing the new writing. Enrollment limited. Written permission required. S/NC. G. P. Landow.

Culture, Experience and the Writer’s Identity
Writers are an amalgam of disparate cultures, from high to low, from literary books to athletic clubs. To examine how we create and define ourselves within and without our cultural context, this course concentrates on what shapes the writer’s life and how the writer observes the world s/he inhabits. Readings and assignments concentrate on autobiography, memoir, reportage, and profile. Enrollment limited. Written permission required. S/NC.

(1180E) Lifewriting
Features theoretical and practical study of lifewriting’s various forms--memoir, diary, essay, and autobiography-- and the crafting of personal narrative. Students read books, view films, and keep an electronic diary and paper notebook. Requirements include a personal critical essay and autobiography. Prerequisite: EL 18 or equivalent. Writing sample required to the instructor before the first day of class. Enrollment limited. Written permission required. S/NC.

(1180G) Lyricism and Lucidity
This course will explore two subsets of the personal essay that blur or cross boundary lines--the lyric essay and the photographic essay-- in both traditional and experimental formats. A writing sample will be administered on the first day of class. Enrollment limited. Written permission required. S/NC. C. Imbriglio.

(1180M) Special Delivery: Letters and Diaries
While letters and diaries are constrained by “dailiness”--the writer’s informal situation in time--they often form the basis of more formal communications, including the novel. We will keep diaries as self-conscious intellectual enterprises and write letters to address their roles in various literary modes. The final project will be an epistolary essay incorporating structures and motifs from both sub-genres. Enrollment limited. Written permission required. S/NC.

(1180I) Tales of the Real World
For the advanced writer, this section offers a chance to practice the pleasures and challenges of nonfiction analysis and story-telling in the forms of literary journalism, historical narrative, and personal essay or memoir. Inspirations will include Truman Capote, Sebastian Junger, Jamaica Kinkaid, and Maxine Hong Kingston. Intensive
practice in researching, interviewing, redrafting, and editing. Enrollment limited. Written permission required. S/NC. E. S. TAYLOR.

(1180L) Travel Writing: In the Domain of the Other
Huck Finn’s intention “to light out for the Territory” reflects a pervasive desire to be somewhere else. Restless curiosity about the Other affects travel, writing about travel, and reading about travel. Will concentrate on contemporary travel writers (Hemingway, Didion, Chatwin, numerous others) and experiment with various types of narrative structures. Writing sample required. Enrollment limited. Written permission required. S/NC. L. K. STANLEY.

119. (1190) Special Topics in Expository Writing
Prerequisite for all sections: EL 11, EL 13, EL 16, EL 18, or equivalent. Writing sample required.

(1190A) “The Arrangement of Words”: Liberating Fiction(s)
The fiction writer’s perception of writing is often excluded from or seen as marginal to academic studies. Concentrating on American fiction writers, 1918-1945 (Hemingway, Faulkner, Welty, O’Connor, others), we examine their nonfictional and fictional prose on writing fiction. Journals, weekly response papers, three formal essays; does not include writing fiction. Enrollment limited. Written permission required. S/NC. L. K. STANLEY.

(1190J) Narrative Poetics
A study of literary language from the writer’s perspective that draws on Chomsky’s universalist linguistics to refashion structuralist poetics and narratology. Small written experiments with literary word choice and literary sentence structure prepare for a final experiment with narrative structure. Prerequisite: EL 18 or equivalent. Enrollment limited. Written permission required. S/NC. G. R. RUSSOM.

(1190B) “The Real Language of Men”: Poetics and the Act of Writing
Concentrates on the first generation Romantics (Wordsworth and Coleridge) and their poetic/aesthetic experiments to correlate “the real language of men” with poetic perception. Along with primary sources (prose and poetry), we read scholarly, critical, and theoretical texts to construct ways of reading English Romantic poetry and then work on different kinds of writing that derive from those readings. Enrollment limited. Written permission required. S/NC. L. K. STANLEY.

(1190G) Science as Writing, Scientists as Writers
Investigates the ways science, scientists, and science-related issues have been represented in fiction and nonfiction written for general audiences. Writing assignments include an informal online journal, literary/cultural analyses, fiction or personal essay, and scientific journalism. Readings from literary, journalistic, and scientific writers. A background in science is useful but not required. Enrollment limited. Written permission required. S/NC. C. IMBRIGLIO.

(1190H) Writing Science, Writing the Sacred
Explores the relationships between two dominant intellectual paradigms—science and religion—and asks students to respond by writing their own “sacred” and science-related texts. Genres to read and write will be poetry and critical/literary nonfiction. Enrollment limited. Written permission required. S/NC. C. IMBRIGLIO.

(1190I) Writing the Southeast Asian War (Ethnic Studies 119)
It was the Vietnam War, the American War, the Southeast Asian diaspora. By reading varied genres responding to the experience of the war in Southeast Asia and its
aftermath, we will study how any experience is multitudinous and how genres manipulate experience in different ways. Analysis and practice of memoir, fiction, poetry, and oral history. Enrollment limited. Written permission required. S/NC. E. S. TAYLOR.

120. (1200) Independent Study in Expository Writing
Tutorial instruction oriented toward some work in progress by the student. Requires submission of a written proposal to a faculty supervisor.

121. (1210) History of the English Language
Begins with analysis of contemporary spoken English, then traces its forms back to their most remote origins. Topics include poetic form and the social dimension of language use, with particular attention to issues of language bias. G. R. RUSSOM.

131. (1310) Special Topics in Medieval and Early Modern Literatures and Cultures

(1310B) American Degenerates
Colonial British-Americans were called, among other names, monstrous, wild, impotent, and grotesque. They could not, it was said, produce writing worth reading. We will explore the ways in which American writers embraced and/or challenged these charges of cultural and bodily degeneracy. In the process, we will examine the development of modern notions of literature and identity. J. F. EGAN.

(1310D) Between Gods and Beasts: The Renaissance Ovid
Ovid’s Metamorphoses, an epic compendium of classical myths, narrates with wit and pathos the transformations of body and mind wrought by sexual passion. Central to Renaissance conceptions of the human, it inspired drama, poetry, and narrative. Readings: Petrarch, Shakespeare, Marlowe, Donne, Spenser, Jonson. C. KAHN.

(1310T) Chaucer
Texts in Middle English by Geoffrey Chaucer including the romance Troilus and Criseyde; dream vision poems Book of the Duchess, House of Fame, and Parliament of Fowls; Chaucer’s translation of Boethius’s Consolation of Philosophy; his shorter poems; and two Canterbury Tales. Prior knowledge of Middle English not required, but EL 21 is recommended as background. Not open to first-year students. E. J. BRYAN.

(1310V) Chaucer: The Canterbury Tales
Middle English poetic 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. E. J. BRYAN.

(1310F) Early Modern Utopias
Why does the early modern period witness a flourishing of utopias from More to Milton? We will explore this question, in reading a range of utopias by writers such as Montaigne, More, Ralegh, Bacon, Hall, and Cavendish, engaging them not just as visions of ideal societies, but as efforts at reform of England and Englishness. J. FEERICK.

(1310W) English Poetry and the Renaissance
The names of Spenser, Sidney, Shakespeare, Donne, Jonson, Milton, and other poets inscribe a golden age of poetry in the cultural mythography of English-language literature. Who are these poets and what stories are told about them? In their time? During the long eighteenth century? By Wordsworth and Browning? By Eliot, the high modernists, and postmoderns? S. M. FOLEY.
(1310J) Imagining the Individual in Renaissance England

(1310U) Monsters, Giants, and Fantastic Landscapes in Early American Literature
Monsters, giants, “exotic natives,” and unknown continents fill the pages of early American writing. Examines how the well-known and obscure writers of early America used the strange and the fabulous to suggest new ways of being normal. J. F. EGAN.

(1310O) Restoration and Early Eighteenth-Century Literature
A survey of writing and cultural history in England between 1660 and 1750, emphasizing innovation and experimentation in drama, satire, poetry, and fiction. Readings include work by Behn, Rochester, Swift, and Defoe. M. A. RABB.

(1310X) Shakespeare’s Sexual Politics
This course will study the sexual politics at work in Shakespeare’s poetry and drama, and how that politics changed over time. Texts to be studied will include selections from his poetry, Taming of the Shrew, Merchant of Venice, Midsummer Night’s Dream, Hamlet, Othello, King Lear, and Antony and Cleopatra. L. TENNENHOUSE.

136. (1360) Special Topics Seminars in Medieval and Early Modern Literatures and Cultures

(1360J) Literatures of Medieval England
In the multilingual society of medieval England, the choice to write in English was culturally loaded. We read, in their cultural contexts, lyrics, romances, debate poems, dream visions, Breton lays, Arthurian histories, women’s devotional writings, and saints’ legends written in Middle English between 1100 and 1485. Readings are in Middle English. Not open to first-year students. Enrollment limited. Written permission required. E. J. BRYAN.

(1360F) Quest, Vision, Diaspora: Medieval Journey Narratives
Medieval texts explored ideas of self, love, rite-of-passage, spirituality, and group identity through narratives of travel, both imagined and real. We will read romance quests that foray to fairylands and wastelands, visionary journeys to hell, pilgrimages of self discovery, an epic exodus that founds King Arthur’s nation, and a 14th-century round-the-world travelogue. Chaucer, Malory, Kempe, Mandeville, Layamon, Anonymous. Middle English readings. Enrollment limited. Written permission required. E. J. BRYAN.

Race and Nation in Shakespeare
We will explore the racial and ethnic politics of Shakespeare’s major plays with attention to differences from the way we understand identity today. What do the plays identify as alien or normative? What are the requirements for belonging to a community? Print and (occasionally) cinematic texts include Henry V, Merchant of Venice, Othello, Antony and Cleopatra, and The Tempest. Enrollment limited. Written permission required. J. FEERICK.
(1360H) Seminar in Old English Literature  
An introduction to the Old English language and to Old English literature. Topics include characteristic features of early English culture: oral storytelling, transmission of pre-literate narratives, social structure before the state, and cultural colonization of the “barbarian fringe” by the Roman imperial center. Enrollment limited. Written permission required. G. R. RUSSOM.

(1360P) Shakespeare  
We will study six plays intensively, testing various critical perspectives while getting acquainted with Shakespeare scholarship and criticism. Oral presentations; two short papers; a 20-page research paper. Prerequisite: Introduction to Shakespeare or a college-level equivalent. Enrollment limited. Written permission required. C. KAHN.

(1360K) Shakespeare and Company  
What makes Shakespeare different from Marlowe or Jonson, Middleton or Webster? They all belonged to a community of actors and playwrights who competed for audiences in a fledgling entertainment industry. Reading Shakespeare’s plays in tandem with those of his contemporaries, we will consider the genres, sources, styles and conventions they shared, and the issues that concerned them. Enrollment limited. Written permission required. C. KAHN.

(1360N) Shakespeare and European Culture  
How do Shakespeare’s work embody and transform the cultures of Europe? What is his relationship to ancient Greece and Rome? To the moral and political philosophies of the sixteenth century? To contemporary literary fashion? Enrollment limited. Written permission required. S. M. FOLEY.

(1360M) Spenser, Milton, and the Politics of the English Epic  
We will read the literary and political writings of England’s two major authors of epic -- Spenser and Milton -- assessing their investment in contemporary debates about nation and conquest, rule and liberty, and sexuality and selfhood. Along with the major poems, we will read these authors’ shorter literary and political writings. Enrollment limited. Written permission required. J. FEERICK.

(1360O) The Ties that Bind: Domestic Friction and Renaissance Drama  
(Theatre, Speech and Dance 128)  
From revenge plays to domestic tragedies, family is a value to kill and die for in Renaissance drama. This course considers the cultural pressures such violence responds to, the contaminations it guards against, and explores the political life of these violent domestic affairs. Works by Kyd, Shakespeare, Heywood, Webster, and Middleton. Not open to first-year students. Enrollment limited. Written permission required. J. FEERICK.

140. (1400) Undergraduate Independent Study in Medieval and Early Modern Literatures and Cultures  
Tutorial instruction oriented toward a literary research topic.

141. (1410) American Poetry I: Puritans through the Nineteenth Century  

151. (1510) Special Topics in the Enlightenment and the Rise of National Literatures and Cultures
(1510Z) American Fiction at the Turn of the Century
An investigation of the extraordinary generation of American writers who came of age at the turn of the twentieth century, which focuses on the problems of representation they posed for readers. Writers include Henry James, Jack London, Edith Wharton, Stephen Crane, Frank Norris, Kate Chopin, and Charles W. Chesnutt; topics include the rise of feminism, naturalism, realism, and modernism. S. BURROWS.

(1510E) American Renaissance
An intensive reading in American literature between 1820 and 1860, with special attention to Romanticism, race and slavery, and the historical novel. P. GOULD.

(1510A) Austen and Her Predecessors
Before turning to an in-depth consideration of Austen’s major work, this course takes a revisionary view of the rise of the novel by studying fiction by women writers from Aphra Behn to Mary Wollstonecraft. Readings include Haywood’s Love in Excess, Inchbald’s A Simple Story, Burney’s Evelina, and, of course, Austen’s Northanger Abbey, Pride and Prejudice, Emma, Mansfield Park, and Persuasion. M. A. RABB.

(1510J) Eighteenth-Century Novel
How and why did the novel become the dominant literary mode? This course considers the “rise” of the novel during the “long” eighteenth century. Beginning with Behn and Defoe, readings include works by Richardson, Fielding, Sterne, Smollett, Lewis, and Godwin. M. A. RABB.

(1510I) Eighteenth-Century Women Writers
Rediscovery and reconsideration of works by women during the eighteenth century are changing the literary canon: works by women are becoming mainstream, and they are changing the way we read ‘traditional’ texts. This course includes poetry, drama, fiction, letters, diaries, and essays by writers including Manley, Haywood, Centlivre, Scott, Fielding, Montagu, Sheridan, Burney, Radcliffe, and Wollstonecraft. M. A. RABB.

(1510L) Fiction and Mass Media in Nineteenth-Century England and America (Modern Culture and Media 120)
Explores critiques of the mass media from Carlyle and Arnold to Benjamin and McLuhan by way of a reading of important works of popular Anglo-American fiction of the 19th century. Criticism includes essays by Carlyle, Arnold, Benjamin, and McLuhan; literature includes fiction by Poe, Dickens, Melville, Stevenson, and James. K. MCLAUGHLIN.

(1510O) Inventing Race in America
What is “race”? Where does it come from? This course argues that categories of racial difference—far from being fixed or natural—have emerged from within writing. We trace the emergence of “race” in America from the late 16th century to the present day by reading 17th-century British colonial writing, 18th-century racial scientists, Jefferson, Crevecoeur, Melville, Faulkner, Mukherjee, and Silko. J. F. EGAN.

(1510B) Liberalism and American Culture
A course in the relationship between the rise of liberalism and American literary history. Writings from Franklin, Jefferson, Emerson, Fuller, Rowson, Twain, and Charlotte Perkins Gilman. P. GOULD.

(1510D) The Literature of the American South
The South is as much a state of mind as a place on the map, and some of the major figures in American literature have contributed to the making of what we think of
when we think of “the South.” Explores sometimes contradictory but always important meanings of the American South. Authors include Poe, Douglass, and Twain. J. F. EGAN.

(1510S) Pre-Raphaelites, Aesthetes, and Decadents
(History of Art and Architecture 152)
Looks at both Pre-Raphaelite literature and painting, and the reading includes Browning, the Rossettis, Morris, and Swinburne. The painters include both early hard-edge photographic Pre-Raphaelites and the erotic medievalism of Rossetti, Burne-Jones, and the followers. The course will focus on the tensions in Pre-Raphaelitism between realism and fantasy, fact and symbol, body and spirit. G. P. LANDOW.

(1510C) Sensation and Sensibility (Comparative Literature 181)
Reads fiction, poetry, and aesthetic theory of the 18th and 19th centuries to consider how feelings that enter the individual with external stimuli may act as “influences” or “contaminants.” How do such feelings interact with emotions that seem to arise strictly from within the individual? Works by Locke, Sterne, Walpole, Fielding, Brontë, Eliot, and Wilde. N. ARMSTRONG.

(1510T) Swift and His Contemporaries
Swift’s works are central to this course’s investigation of literature, politics, and society, Anglo-Irish relations, and the great outpouring of satire in English in the early 18th century. Irony, parody, and mock-heroics inventively transform genres while challenging “abuses” of learning, government, religion, colonialism, and even love. Other writers include Congreve, Manley, Addison, Steele, Montagu, Pope, and Gay. M. A. RABB.

(1510H) Why the Novel Happened
Readings in “early” novels of 18th-century England and in more recent explanations of the novel’s rise to dominance as a popular modern genre. How have changing ideas of truth, virtue, gender, money, politics, history, or the human subject interacted with the practices of narrative fiction? Writers to be considered include Behn, Haywood, Defoe, Richardson, Fielding, Sterne, Lewis, Watt, Lukacs, McKeon, and Bakhtin. M. A. RABB.

156. (1560) Seminars in the Enlightenment and the Rise of National Literatures and Cultures

(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. Written permission required. E. F. ROONEY.

(1560K) Victorians and Moderns
Considers Victorian works and more recent works that attempt to rewrite them in particularly interesting ways: Browning’s Aurora Leigh, A.S. Byatt’s Possession, Carey’s Oscar and Lucinda, Dickens’s Great Expectations, Ruskin’s The Stones of Venice (selections) and “Traffic,” Swift’s Waterland, and Wolfe’s From Bauhaus to Our House and The Pump House Gang (selections). Enrollment limited. Written permission required. G. P. LANDOW.
(1560M) *Orientalism and the Place of Literature*
Literary representations of “the East” from the Enlightenment through Modernism and their relation to changing conceptions of the meaning and value of “literature” itself. Thinking about “place” in representational, geopolitical, and institutional terms. Readings from the “Arabian Nights,” Mary Wortley Montagu, Oliver Goldsmith, Coleridge, Byron, De Quincey, Kipling, Michael Ondaatje, and others; theoretical and historical perspectives from Said, Williams, Eagleton, and others. Enrollment limited. Written permission required. W. KEACH.

(1560O) *Slavery and American Literature*
This course examines the ways in which slavery is represented in 19th-century American literature. We will consider efforts to delineate the social practices and effects of chattel slavery and deployments of slavery as a form of political rhetoric. Readings include works by Douglass, Jacobs, Stowe, Melville, Howells, Twain, and DuBois. Enrollment limited. Written permission required. D. NABERS.

(1560H) *The Victorian Novel*
What specific historical conditions can be seen to have led to the emergence of the novel as a leading literary form in the Victorian era? What cultural work was it called upon to perform? How does it address broader philosophical, economic, political and social questions of the Victorian era? Authors include Dickens, Eliot, Hardy, Stevenson, and Conrad. Enrollment limited. Written permission required. K. MCLAUGHLIN.

160. (1600) *Undergraduate Independent Study in the Enlightenment and the Rise of National Literatures and Cultures*
Tutorial instruction oriented toward a literary research topic.

161. (1610) *American Poetry II: Modernism*
Study of modernist American poetry. Readings include Pound, Eliot, Stevens, Williams, H.D., Moore, Hughes, and others. M. K. BLASING.

163. (1630) *The Twentieth-Century American Novel†*
Surveys the modern American novel, from realism to postmodernism. Focusing on questions of nationalism, ethnicity, gender, and narrative form, attempts to place these familiar yet fascinating novels within both an aesthetic and a historical context. Writers include Wharton, Fitzgerald, Larsen, Chandler, Ellison, Pynchon, Silko and DeLillo. S. BURROWS.

165. (1650) *Modernist Fiction*
Readings in British and American fiction and culture in the early 20th century, with particular attention to the relationships between modernist literary experiment and contemporary questions about empire, race, the changing status of women, and the grounds of literary authority. Writers may include Conrad, H.D., Joyce, Larsen, Lawrence, Rhys, Toomer, Woolf. E. T. KATZ.

171. (1710) *Special Topics in Modern and Contemporary Literatures and Cultures*

(1710D) *Anglo-American Nonfiction: Sages, Satirists & New Journalists*
After examining the relations between fiction and nonfiction, the class will consider the work of Tom Wolfe, Joan Didion, Annie Dillard, and others within contexts created by essayists (Montaigne), satirists (Swift), and 19th-century sages (Carlyle, Thoreau, Nightingale, and Ruskin). The class will become acquainted with various
nonfictional forms including prose satire, the meditative essay, sage-writing, autobiography, and travel literature. G. P. LANDOW.

(1710P) The Literature and Culture of Black Power Reconsidered
(Africana Studies 171)
This course reexamines the impact of the Black Power Movement (1964–75) on the literary and political landscape of the United States within the past four decades. Black Power aesthetics, the status of Malcolm X as a cultural symbol, and the logics of revolutionary violence are among the topics to be explored. R. D. MURRAY.

(1710J) Modern African Literature
The European languages in Africa, and print culture itself, were introduced into the continent as a consequence of 19th-century colonialism. This course explores themes, antecedents, and contexts of contemporary African literatures. Readings include literary texts (Achebe, Farah, Gordimer, Plaatje) and cultural theory (Cesaire, Fanon, Ngugi, Senghor). Issues include missionary conversion, race, gender, and post-independence resistance to dictatorships. O. GEORGE.

(1710M) Nationalizing Narratives: Twentieth-Century U.S. Novel
Examines 20th-century U.S. novels for the ways in which they conjure a national and/or imperial imaginary. Particular focus given to how issues of nation and empire engage with those of race, class, gender, and sexuality. Writers we study may include Cather, Faulkner, Hagedorn, Himes, and Silko. D. Y. KIM.

(1710N) Photography and the American Novel
Traces the impact made by the emerging medium of photography on American fiction from its very beginnings until the present. Our focus will be on the varying strategies adopted by novelists in response to the representational challenges posed by photography. Writers include Hawthorne, Nabokov, Faulkner, Hurston, Citron, Eugenides, and Barthes. S. BURROWS.

(1710C) Race and Nation in American Literature (Africana Studies 171, Ethnic Studies 189)
From the heyday of literary realism through the rise of modernism, race definitively shaped the national literature of the U.S. This course will consider representations of racial identities in relation to key historical and aesthetic developments within these two periods. Authors include Mark Twain, Frances Harper, Charles Chesnutt, Stephen Crane, William Faulkner, and John Fante. R. D. MURRAY.

Focusing on pairs of African American and Asian American works that address parallel concerns, we explore the continuities and discontinuities between these literary traditions. Authors we examine may include: James Weldon Johnson and Winnifred Eaton, Richard Wright and Carlos Bulosan, Chang-rae Lee and Toni Morrison, Karen Tei Yamashita and Caryl Phillips. D. Y. KIM.

Toni Morrison as Novelist and Critic
This course will explore Morrison’s uses of narrative form and figurative language. We will read virtually all of Morrison’s novels, examining the development of themes and formal strategies. We will also read Morrison’s literary and cultural criticism, investigating how issues in the novels are addressed in these nonfiction works and the different responses to Morrison’s fiction and her criticism. Enrollment limited to students with sophomore status or higher. A. R. KEIZER.
How do major African novelists represent the interplay of tribe, nation, and race in African societies? This course will introduce students to key themes and contexts of African literature in English. We will read the work of the writers for the historical sources and conceptual implications of these categories in modern Africa. Writers include Achebe, Emecheta, Farah, Ngugi, and Vera. O. GEORGE.

(1710U)  *What Was Postmodern Literature?* (Modern Culture and Media 120)
How compatible is the idea of the postmodern with the idea of a historical period? This course looks at recent British and American literature through the optic of postmodern theory, discussing how the theoretical problematization of both history and politics has an impact upon the very possibility of fiction. Readings include Doctorow, Pynchon, Amis, Jameson, Lyotard, Baudrillard. T. R. BEWES.

176. (1760)  *Seminars in Modern and Contemporary Literatures and Cultures*


*American Fiction and the Triumph of the Masses*
This course focuses on 20th century fiction that presents the U.S. as a nation increasingly dominated by the politics, consumption, and culture of the masses. We’ll examine how this perception inspired anxiety and literary innovation. Readings include works by Theodore Dreiser, Nathanael West, Gwendolyn Brooks, Thomas Pynchon, and John Edgar Wideman. Enrollment limited. Written permission required. R. D. MURRAY.

(1760C)  *Body and Event in Contemporary Fiction* (Modern Culture and Media 150)
This theory-intensive course discusses how considerations of the body, materiality, and the event can aid our understanding of the turn towards violence and pornographic imagery in recent fiction. How convincing is the claim that episodes of dismemberment stand in for the dismantlement of the literary text itself? Readings include Selby, Acker, Cooper, Butler, Deleuze, Blanchot. Enrollment limited. Written permission required. T. R. BEWES.

(1760F)  *City, Culture, and Literature in the Early Twentieth Century* (Urban Studies 177)
How did changes in the city shape early 20th-century literature? How does the literature of this period—whether avant-garde or documentary, progressive or conservative—shape the way we imagine the city? Topics may include urban spectacle, mobility and segregation, the neighborhood and the crowd. Authors include Dos Passos, Eliot, Larsen, Orwell, Woolf, Wright. Prerequisite: two previous literature classes. Enrollment limited. Written permission required. E. T. KATZ.

(1760G)  *Contemporary British and American Poetry*
(1761O)  "Everything that is must be destroyed": American Modernism
An interdisciplinary seminar that focuses on the formal experiments undertaken by American literature between the wars. We will attempt to establish connections between a wide variety of genres: autobiography, history, lyric poem, short story, novel, and play. Writers to include William Faulkner, Eugene O’Neill, Gertrude Stein, Jean Toomer, Djuna Barnes, William Carlos Williams, and Richard Wright. Enrollment limited. Written permission required. S. BURROWS.

(1760S)  Law and Literature: From Response to Responsibility
Examines literary works, legal writings, and legal opinions, exploring the conceptual, psychological and rhetorical connections between literature and law, and considering how both disciplines shape the imagination but also aim—in different but overlapping ways—to elicit response and responsibility. Authors include Benjamin, Conrad, Woolf, West, Achebe; legal texts include Blackstone, Holmes, Bentham, Cover and a number of legal opinions. Enrollment limited. Written permission required. R. REICHMAN.

(1760T)  Literary Africa (Africana Studies 176)
Explores the sense in which the word “Africa” has come to carry a range of disparate moral, epistemological, and political connotations in literary and related discourses. We will study African novels (Achebe, Dangarembga, Ngugi, Marechera), theoretical essays (Appiah, Mudimbe, Pratt), and writings by so-called “native” Christian missionaries from the late 19th century. Enrollment limited. Written permission required. O. GEORGE.

(1760V)  Lying, Cheating, and Stealing
Explores literature’s treatment of transgressions large and small, with particular attention to the way in which modernist narratives expose, obstruct, condone or condemn acts of wrongdoing. What is the relationship between a misdeed and its retelling? Does writing right the story of a wrong? Readings from Rousseau, Conrad, Wells, Rhys, Waugh, Wilde, Nietzsche, Freud, and select readings from law. Enrollment limited. Written permission required. R. REICHMAN.

Modern British and American Poetry
Readings include Yeats, Pound, Eliot, Stevens, Moore, Auden, Larkin, Bishop, Plath. Enrollment limited. Written permission required. M. K. BLASING.

Religion has been regarded by scholars and theorists in a number of fields—anthropology, sociology and, most recently, evolutionary psychology—as a complex of human-cultural phenomena to be studied naturalistically. Course examines key works in this tradition, focusing on the issues they raise for contemporary understandings of science as well as religion. Readings include texts by Hume, Nietzsche, Durkheim, Freud, Scott Atran, and Bruno Latour. Enrollment limited. Written permission required. B. H. SMITH.

(1761C)  Race, Writing, Manhood: Rhetorics of the “Authentic” in 20th-Century African and Asian American Literature (Africana Studies 176, Ethnic Studies 187, Modern Culture and Media 150)
Explores the interrelatedness of racial, sexual, and literary identity in works by U.S. black and Asian male writers. Particular interest given to how the issue of homosocial desire frames literary accounts of racial authenticity. Writers and theorists studied may
include James Baldwin, Frank Chin, Ralph Ellison, Frantz Fanon, David Henry Hwang. Enrollment limited. Written permission required. D. Y. KIM.

(176IL) Reading the Black Masses in Literature and Critical Practice
(Africana Studies 176, Ethnic Studies 187)
African American literary and critical practice in the twentieth century was definitively shaped by claims about the linkages between literature and mass politics. We will unpack the continuities and divides that constituted such assertions. Historical nodal points in our investigations will include racial uplift, the Harlem Renaissance, the Black Power Movement, and the post-identity debates. Enrollment limited. Written permission required. R. D. MURRAY.

(1761P) Yeats, Pound, Eliot
Readings in the poetry and selected prose of Eliot, Yeats, and Pound. Enrollment limited. Written permission required. M. K. BLASING.

180. (1800) Undergraduate Independent Study in Modern and Contemporary Literatures and Cultures
Tutorial instruction oriented toward a literary research topic.

190. (1900) Special Topics and Seminars in Critical and Cultural Theory

(1900E) Aesthetics and Politics (Modern Culture and Media 120)
Considers the shifting relationship between art and politics during the 20th century through such historical moments as Nazism, modernism, impressionism, socialist realism, postmodernism, and such thinkers as Kant, Hegel, Marx, Adorno, Lyotard, Cixous, Deleuze. T. R. BEWES.

(1900O) Contemporary Feminist Literary Theory
An advanced survey of 20th-century feminist literary theory with an emphasis on U.S., British, and French traditions. Topics include canon formation, “resisting readers,” and the category of “women’s writing,” as well as the relation of feminist criticism to problematics such as critical race theory, poststructuralism, psychoanalysis, and postcolonialism. Enrollment limited. Written permission required. E. F. ROONEY.

(1900A) “Literature” and the Ideology of the Aesthetic
Theoretical and historical analysis of the idea of “literature” as writing that has the status of art, in relation to the emergence and elaboration of discourses of the “aesthetic.” Readings in 18th- and 19th-century German and British sources (Kant, Schiller, Hegel, Nietzsche; Coleridge, Shelley, Arnold, Wilde) and in 20th-century literary and aesthetic theory (Benjamin, Adorno, Barthes, Foucault, Derrida, Williams, Eagleton). Enrollment limited. Written permission required. W. KEACH.

(1900G) Literature and the Structure of English
An introduction to the study of written English as an artistic material. Domains of application include issues of class, gender, age, and nationality in dialogue and the narrative voice. G. R. RUSSOM.

(1900N) Women In/And the Novel
An introduction to the novel through feminist theory, considering social and historical reasons why women read, wrote, and figured in novels, from the 18th century to the 20th. Novels by Defoe, Austen, George Eliot, Rhys, Woolf; readings in feminist theory and criticism. C. KAHN.
195. Seminar in the Teaching of Writing (Education 195)
Explores major theories of teaching writing, such as Christensen’s generative rhetoric and Hirsch’s principle of readability, as well as current research on the composition process. Also considers practical applications in classroom or tutoring situations. Drawing on the fields of English, linguistics, psychology, and education, provides on-the-job training for undergraduate writing fellows; not a writing course. Enrollment limited to Writing Fellows only. Written permission required. S/NC. R. L. FLAXMAN.

196. (1990) Senior Honors Thesis in Expository Writing
Independent writing project under the direction of a faculty member. Permission should be obtained from the honors director for expository writing. Open to senior candidates for Honors in Expository Writing.

Weekly seminar led by the Director of Honors in Literature. 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. Open to senior candidates for Honors in Literatures and Cultures in English. Written permission required.

198. (1992) Senior Honors Thesis in Literature II
Independent research and writing under the direction of a faculty member. Open to senior candidates for Honors in Literatures and Cultures in English. Written permission required.

Primarily for Graduates

236. (2360) Graduate Seminars in Medieval and Early Modern Literatures and Cultures

(2360B) Before Holinshed: The English Brut Chronicle Tradition
Holinshed’s 16th-century history drew from 400 years of manuscript chronicles, most in verse, which founded the “modern” history of England on a Trojan/Celtic ancient Britain. We will read the medieval versions of these historical narratives from Geoffrey of Monmouth, Wace, and Layamon to the popular 15th-century Middle English prose Brut. Critical engagements with manuscript/print cultures and the “Brut” narrative as a vocabulary for nationalism. E. J. BRYAN.

(2360O) Irony and Satire
Works of irony and satire (from the Civil Wars to the death of Swift) allow an investigation of current issues in the study of Civil War, Restoration, and Early 18th-C. texts, including revisionist history, the public sphere, Anglo-Irish relations, print culture, mercantilism, and gender construction. M. A. RABB.

(2360G) Medieval Manuscripts: Paleography and Interpretation
How to read and understand a medieval manuscript text. Methodologies include paleography, codicology, editorial theory. Hands-on analysis and interpretation of specific Middle English texts in their manuscript medium (in microfilm, facsimile, digital representation, and when accessible, actual manuscripts). For students already acquainted with Old English and/or Middle English; Latin helpful. Textual projects in other medieval languages possible with instructor’s consent. E. J. BRYAN.
(2360N) The Pearl Manuscript in Context
Close translation of the Middle English alliterative poems in British Library Manuscript Cotton Nero A.x, Pearl, Cleanness, Patience, and Sir Gawain and the Green Knight, with attention to their medieval theological, generic, and codicological contexts. E. J. BRYAN.

(2360A) Renaissance Drama
This course explores Early Modern drama: its style of representation, material conditions, and political engagements, in Marlowe, Jonson, Middleton, Webster, Ford, Beaumont and Fletcher, and others. Drawing on current scholarship, it posits the stage as the site of contests over national identity, royal power, gender ideology, social mobility, nascent capitalism, religious and ethnic differences. C. KAHN.

(2360M) Shakespeare
How did Shakespeare become “the Bard,” morphing from popular playwright to icon to global institution? How was “Shakespeare” marshaled in political struggles? Contexts: early modern constructions of authorship, writing and nationhood, print culture, literary and theatrical markets, editorial practices, the formation of the English canon, post-colonial Shakespeare. C. KAHN.

240. (2400) Graduate Independent Study in Medieval and Early Modern Literatures and Cultures

256. (2560) Graduate Seminars in the Enlightenment and the Rise of National Literatures and Cultures

(2560B) American Creoles, English Writing
Explores the problem of creolization in British American colonial writing. These writings wage a rhetorical assault on the importance of place in early modern theories of identity formation. Topics include the emergence of cosmopolitan, racial, national, and other modern identity categories. Readings may include Rowlandson, Defoe, Franklin, Jefferson, Irving. J. F. EGAN.

(2560C) Early American Studies
A critical introduction for graduate students to the scholarly field of early American studies, from the colonial era to the late 19th century. P. GOULD.

(2560D) Institutions of the Novel
Examines the reigning theories of the rise of the novel for their explanation of the novel’s relation to the emergent middle classes and its contribution to modern nationalism. Why do these theories generate such sharp disagreements rather than consensus? Why are such theories of origin so unstable? We will try to formulate alternatives. L. TENNENHOUSE.

(2560M) The Necessary Gothic (Comparative Literature 282)
Novel criticism has been reluctant to ask the obvious question: Why is it that for as long as there have been novels of the normative or realistic kind, there has also been gothic fiction? Consults the traditional explanations-from Locke to Freud and Kristeva—to develop a better explanation of what gothic does, not only for Victorian fiction but also for Western culture writ large. N. ARMSTRONG.

(2560G) Romantic Orientalism
Representations of the “Orient” in British and transatlantic literary culture during the “Romantic” period (c. 1770-c. 1830). Connections between cultural representation and both assertions of and challenges to British colonial and imperial power. Theoretical, historical and political analysis by Said, Barrell, and others; poetry by
Coleridge, Southey, Byron, P.B. Shelley; prose by Sydney Owenson, Charlotte Dacre, Thomas DeQuincey. W. Keach.

(2560J) Sacred Readings: The Bible, Biblical Interpretation, and Victorian Literature
(Religious Studies 256)
Explores the ways Bible interpretation provided cultural codes that informed Victorian autobiography, fiction, poetry, art criticism, and sage-writing. Examines the implications for gender and genre of Victorian conceptions of typology, prophecy, and apocalypse, and reads works by Charlotte Brontë, the Brownings, Carlyle, Hopkins, Newman, the Rossettis, Ruskin, and Swinburne, as well as Victorian and earlier writing about biblical interpretation. G. P. Landow.

(2560K) The Transatlantic Enlightenment
A graduate seminar in literatures and cultures of the long 18th century in transatlantic context. Emphasis on print culture, the Black Atlantic, colonialism and slavery, as well as the American Revolution. P. Gould.

(2560L) The Victorian Novel
An intensive seminar on the Victorian novel. The aim will be historically contextualized, theoretically informed interpretations of some leading examples of this complex literary form. Will focus on the role of the (British) novel, as distinct from the (American) short story, in the rise of mass culture, and on recent formalist, stylistic, and historical approaches to the Victorian novel as a literary form. K. McLaughlin.

260. (2600) Graduate Independent Study in the Enlightenment and the Rise of National Literatures and Cultures

276. (2760) Graduate Seminars in Modern and Contemporary Literatures and Cultures

(2760A) American Modernist Poetry and Poetics
Study of the poetry and prose of Eliot, Pound, Stevens, Williams, H.D., Moore, and Hughes, with additional readings in criticism and theories of modernism. M. K. Blasing.

(2760D) Contemporary African American Literature and the End(s) of Identity
(Africana Studies 276, Ethnic Studies 276)
Investigates the controversies surrounding the claim that the late 20th century marks the end of nationalist and essentialist paradigms in the scripting of black identity. Readings from a range of literary and theoretical works dealing with this intricate problem, including Stuart Hall, Hortense Spillers, Reginald McKnight, Trey Ellis, Octavia Butler, and Paul Beatty. R. D. Murray.

(2760P) The Fifties in Color: Race, Empire, and U.S. Cold War Culture
Examines U.S. cultural texts of the ’50s in relation to both domestic race politics and foreign policy concerns. Explores issues of assimilation, colonialism, containment, and integration in transnational and national contexts. Particular focus given to representations of Asians and Asian Americans. Writers may include Bellow, Michener, Okada, Roth, and Himes; films include *The Manchurian Candidate*, *Flower Drum Song*, *The Crimson Kimono*, and *House of Bamboo*. D. Y. Kim.

(2760C) History, Memory and Subjectivity in Contemporary African American Literature and Visual Culture
History, especially the history of slavery, haunts contemporary African American literature. We’ll examine novels and plays from the 1960s through the 1990s and the
ways in which they address memory (especially the memory of trauma), oral/written history, and the formation of black subjectivity. Readings of literary texts supplemented by readings from the major theoretical works on subjectivity in the humanities. A. R. KEIZER.

(2760E) Law and Literature: From Response to Responsibility
Explores competing scholarly paradigms for considering modernism as it is shaped by the normative and ethical concerns of legal discourse. Seminar examines how legal and literary subjects are each informed by similar categories: the juridical, the imaginative, the ethical, and the historical. Authors include Arendt, Benjamin, Woolf, Conrad, Camus, West; legal texts include Holmes, Bentham, Cover and legal opinions. R. REICHMAN.

(2760L) Literature and Photography
Since the invention of photography in 1839, novelists have often claimed the camera as an important model for their work. We will endeavor to investigate this claim, asking in the process what the links between modernism and the visual arts have to tell us about the nature of fictional representation. Readings to include a number of theoretical discussions of photography. S. BURROWS.

(2760G) Modernist Fiction and Theories of Modernism
Examines a range of modernist fiction—including work by Conrad, Dos Passos, H.D., Joyce, Larsen, Rhys, Toomer, Woolf—alongside selected theories of modernism. Considers approaches ranging from theories of reification and the aesthetic to more recent considerations of modernism’s relation to gender, nation, race, empire, and professionalism. E. T. KATZ.

(2760M) Postcolonial Theory and Africanist Discourse (Africana Studies 276, Ethnic Studies 276)
Explores central questions in current Anglo-American postcolonial theory, and examines how related questions emerge with specific inflections in writings by Africanist philosophers, social historians, and novelists. Issues include: ideology and subjectivity, constructivism and essentialism, nationalism and globalization, aesthetics and politics. Texts by Amilcar Cabral, Stuart Hall, Paulin Hountondji, Fredric Jameson, Ernesto Laclau, Ngugi, Wole Soyinka, Gayatri Spivak. O. GEORGE.

(2760S) Psychoanalysis in/and African American Literature and Culture
(American Civilization 222)
We will read psychoanalytic theory alongside African American literary texts and cultural artifacts in an attempt to discover the variety of ways in which these two bodies of work speak to one another. We will be as likely to utilize African American “vernacular theory” and cultural practices to read psychoanalysis as to use psychoanalytic theory to read African American texts. A. R. KEIZER.

(2760R) Realism and the American Novel
An inquiry into the form, purpose, longevity, and afterlife of American realism. In what way did it differ from its British counterpart? In what ways was it different from naturalism, modernism, and romanticism? What was its aesthetic and political legacy? How has it been read by critics? Writers to include Melville, Dreiser, Norris, James, Chestnutt, Wharton, Jewett, and Wright. S. BURROWS.

(2760O) Shame, Colonialism, Ethics
This course constructs a dialogue between debates on post-Holocaust aesthetics (“Is poetry possible after Auschwitz?”) and the central questions of postcolonial theory
(“Can the Subaltern Speak?”), and considers the ethical and aesthetic salience of shame. It is organized around three writers whose work suggests that the novel form itself might require decolonization: Naipaul, Coetzee and Caryl Phillips. T. R. BEWES.

280. (2800) Graduate Independent Study in Modern and Contemporary Literatures and Cultures

289. (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. No course credit.

290. (2900) Advanced Topics in Critical and Cultural Theory

(2900A) Contemporary Feminist Theory: Feminist Address
Recent feminist theory addresses identity politics and the critique of the subject; problematics of race, class and gender; the challenge of queer theory; the demand for materialist analysis. We consider these topics in light of the problematics of address. What are the forms of feminist address? How are they received or refused? Who are the subjects of contemporary feminisms? E. F. ROONEY.

Interrogating the Canon
Designed for English Masters students and graduate students in other departments interested in understanding how the discipline of English Studies organizes its canon: How has the canon changed since the founding of English on that canon of new theories of literature and culture? What has been the impact of feminism, postcolonial studies, and ethnic studies on the works we read and how we read them? M. A. RABB.

(2900B) Narrative Theory
Pursues a genealogy of theoretical attempts to explain what narratives are, how some come into dominance, how others challenge domination, and how narratives consequently undergo historical change. Beginning with a brief “pre-history” of components of narrative, we examine the coalescence of “narrative theory” out of “formalism” during the 60s, its displacement by post-structuralism in the 70s, and its return in contemporary studies. N. ARMSTRONG.

295. (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. Priority given to students in the English Ph.D. program. L. K. STANLEY.

299. (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. No course credit.

Environmental Studies

The Center for Environmental Studies at Brown University focuses on education and research about environmental issues. The nature of environmental problems demands an interdisciplinary approach since most issues exceed the domain of a single discipline. The Center has a broad range of faculty with complimentary expertise ranging from
environmental policy and public health to the functioning of ecosystems. Courses and student theses reflect the interdisciplinary approach of the Center.

The environmental studies and environmental science concentrations provide guidance to design interdisciplinary programs to address environmental issues of interest to the student. All students will take basic courses in environmental studies, course work in science, social science, and independent research courses leading to the preparation of a thesis.

An environmental science or environmental studies concentration is particularly appropriate for a liberal arts education. Virtually every substantial environmental problem requires for its solution an understanding of both physical and social dimensions. Therefore, an environmental studies concentration necessarily encompasses work in the physical, biological and social sciences as well as some exposure to ethics and values, all of which must be related in ways that make the disciplinary skills and information available for problem-solving.

Honors is awarded to students whose course work in environmental science or environmental studies has demonstrated superior quality and culminated in an Honor’s Thesis of distinction. Each year the Center awards prizes to graduating seniors who have made an outstanding contribution to environmental science or environmental studies at Brown, based on the quality of their academic work and their service.

The Environmental Studies faculty represent a range of interests and expertise, with most sharing appointments with other academic units: Phil Brown (Sociology), Steven Hamburg (Ecology and Evolutionary Biology), Timothy Herbert (Geological Sciences), John Logan (Sociology), Caroline Karp, Rachel Morello-Frosch (Community Health), John Mustard (Geological Sciences), Talbot Page (Economics), Osvaldo Sala (Ecology and Evolutionary Biology), Johanna Schmitt (Ecology and Evolutionary Biology), Harold Ward (Chemistry).

For information concerning the Environmental Studies Concentration, contact Caroline_Karp@brown.edu. For information concerning the Environmental Science Concentration, contact Steven_Hamburg@brown.edu.

For more information, go to http://envstudies.brown.edu, or visit the Center for Environmental Studies, Box 1943, Urban Environmental Laboratory, 135 Angell Street.

Undergraduate Program

For a complete description of the standard concentration programs leading to the A.B. and Sc.B. degrees, please visit:

http://www.brown.edu/Administration/Registrar/concentration.html

Graduate Programs

The Master’s Program in Environmental Studies consists of advanced work in technical and institutional processes affecting the emergence, analysis and resolution of environmental issues. During the first semester, each candidate will be assigned a mentor (who will normally be a Center for Environmental Studies faculty member) with whom the candidate will develop a plan of study. In their second semester, each student will develop a thesis proposal. Each program of study will be designed to fit the background, interest and intentions of the candidate and to meet the goals of an interdisciplinary, integrated understanding of environmental processes and issues.
Normally, the program of study will consist of the following:

1. Eight courses appropriate to the student’s plan of study, including Environmental Studies 135 or 141, and 201. Each student will be expected to have already, or to gain, a basic proficiency in economic analysis, ecological principles, and policy processes.

2. A thesis demonstrating an advanced knowledge of some aspect of environmental science or of environmental policy, and integrating science and policy as necessary to analyze and propose action on an issue of environmental significance, approved by the thesis supervisor and two readers. Successful completion of at least two semesters of thesis research (ES 295–296) is required as part of the eight-course requirement.

Courses of Instruction

Primarily for Undergraduates

7. (0070) First-Year Seminar

11. (0110) Environmental Issues: Policy and Science
Introduces environmental studies, surveys contemporary environmental problems, and explores arguments for and against regulating human activities, with an emphasis on environmental problem-solving. Interactions between science and technology, political institutions, individual behavior, and the value structures underlying environmental choices are explored. Primarily for first- and second-year students. One required 90-minute section each week. Sections and field trips to be arranged. C. A. KARP.

23. Religion Gone Wild: Spirituality and the Environment
(Religious Studies 23)
Interested students should register for Religious Studies 23.

24. Introduction to Earth Systems History (Geological Sciences 24)
Interested students should register for Geological Sciences 24.

41. (0410) Environmental Stewardship and Sustainable Design
Challenges students to address the economics and logistics of implementing strategies to conserve resources and reduce the negative impacts of the built environment. Students work in teams on applied projects. The goal is to learn the rationale, process and technical aspects of sustainable design, green buildings and responsible solutions to environmental problems. Written permission required. S/NC. K. TEICHERT.

49. (0490) Environmental Science
Introduces the broad discipline of environmental science through an exploration of the alteration of physical and biological systems by human activity. Special attention will be given to collecting, analyzing and interpreting environmental data, climate change, global biogeochemical cycles, analytical techniques and defining uncertainty. The laboratory will include elemental analyses, sample preparation and sample collection, as well as an independent project. Prerequisite: ES 11 or permission of the instructor. S. P. HAMBURG.

51. (0510) Problems in International Environmental Policy (Sociology 51)
Global environmental problems--from climate change to the transport of hazardous waste--have become pressing political concerns in the international arena. Combines practical and theoretical approaches to analyze patterns of success and failure in international environmental politics. Examines the politics of international environmental issues through the lens of five major international actors (states, IGOs, scientific communities, NGOs, and multinational corporations). Prerequisite: ES 11 or an equivalent course. S. PULVER.
58. *Foundations of Physical Hydrology* (Geological Sciences 58)
 Interested students should register for Geological Sciences 58.

70. (0070) **Topics Seminars**

(0070A) *New England Environmental History*
Explore the environmental history of New England from the arrival of people circa 10,000 years ago to the present day. Topics include Native American and colonial environmental interactions and 20th century environmental transformations. From abandoned textile mills to Northern forests, understanding the history of a place can help us plan for its future. Written permission required. N. R. STEIN.

85. *Biological and Social Context of Human Disease* (Biology and Medicine 85, Ethnic Studies 85)
Interested students should register for Biology and Medicine 85.

For Undergraduates and Graduates

100. **Fieldwork in the Urban Community** (Urban Studies 100)
Interested students should register for Urban Studies 100.

107. *The Burden of Disease in Developing Countries* (BioMed-Community Health 107, Anthropology 97)
Interested students should register for BioMed-Community Health 107.

111. *Estuarine Oceanography* (Geological Sciences 111)
Interested students should register for Geological Sciences 111.

113. *Ocean Biochemical Cycles* (Geological Sciences 113)
Interested students should register for Geological Sciences 113.

117. *Environmental Chemistry* (Chemistry 117)
Interested students should register for Chemistry 117.

126. *Indigenous People and Nature: Birds* (Anthropology 126)
Interested students should register for Anthropology 126.

133. *Global Environmental Remote Sensing* (Geological Sciences 133)
Interested students should register for Geological Sciences 133.

135. (1350) *Environmental Economics and Policy* (Economics 135)
Economic analysis of environmental problems. Introduction and application of key concepts including market failure, externalities, economic incentives, and alternative forms of environmental regulation; problems of valuation—the value of life, biodiversity, equity and efficiency; risk assessment; application to topics including fishery depletion, deforestation, population growth and food supply, energy systems and global climate change, world trade and the environment; institutions for sustainable development. Prerequisite: EC 111. THE STAFF.

137. *Aqueous Environmental Geochemistry* (Geological Sciences 137)
Interested students should register for Geological Sciences 137.

141. (1410) *Environmental Policy and Practice* (Urban Studies 143)
Examines the formation and implementation of environmental policy in the United States, including the contributions of law, economics, science, and politics. Detailed understanding of the policy-making process—including market-enlisting and other regulatory strategies, the role of agencies, environmental justice, risk analysis, and new decision-making
paradigms—is developed through lectures, class discussion, and small group exercises that focus on contemporary environmental problems and provide hands-on policy making experience. C. A. KARP.

143. *Microbial Diversity and the Environment*  
(Biology and Medicine 146)  
Interested students should register for Biology and Medicine 146.

144. *Conservation Biology*  
(Biology and Medicine 147)  
Interested students should register for Biology and Medicine 147.

145. (1450) *Ecosystem Analysis* (Biology and Medicine 145)  
Develops ability to measure and characterize important biological and physical parameters of terrestrial ecosystems. Weekly field trips to explore measurement techniques and develop testable questions and/or hypotheses about different forested ecosystems. Qualitative and quantitative writing exercises explore how to describe the patterns and processes associated with the ecosystems visited. Prerequisites: BI 42 and GE 22. Enrollment limited. Written permission required. S. P. HAMBURG.

Instruction of ES 146, 147, 148 and 149 takes place at the Marine Biological Laboratory in Woods Hole, Massachusetts.

146. (1460) *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; enrollment is limited to students in this program.

147. (1470) *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: enrollment is limited to students in this program.

148. (1480) *SES-Environmental Science Elective*  
Two environmental science electives are offered each fall semester as part of the Semester in Environmental Science at the Marine Biological Laboratory, including: aquatic chemistry, mathematical modeling of ecological systems and microbial ecology. Enrollment is limited to students in this program.

149. (1490) *SES-Independent Study/Science Writing*  
The culmination of the Semester in Environmental Sciences 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.

150. (1500) *Human Impacts on Ecosystem Function*  
This seminar format course will bring together researchers from MBL and Brown to explore our current understanding of how humans are impacting the functions of ecosystems. No first year students. Written permission required. M. D. BERTNESS and O. E. SALA.
153. (1530) *From Locke to Deep Ecology: Property Rights and Environmental Policy*
Examines the changing relationship between public and private rights in land, water, and wildlife. Considers alternative land tenure and property rights regimes, and the effect of changing attitudes toward “property in nature” on environmental policy and law. Enrollment limited. Written permission required. C. A. KARP.

158. *Introduction to Physical Hydrology* (Geological Sciences 158)
Interested students should register for Geological Sciences 158.

160. *Environmental and Engineering Geophysics* (Geological Sciences 160)
Interested students should register for Geological Sciences 160.

171. (1710) *Environmental Health and Policy* (BioMed-Community Health 171)
(Environmental Studies 170)
This course examines scientific and public policy conflicts over how to address environmental factors impacting human health. Students develop a basic knowledge of risk assessment, including hazard identification; exposure assessment and fate and transport of environmental toxics; risk management and communication; principles of data interpretation and application to environmental policy-making. Prerequisite: ES11 or permission of the instructor. Sections to be arranged. R. A. MORELLO-FROSCH.

Encourages students to develop quantitative, qualitative, and theoretical approaches for understanding the origins and persistence of environmental discrimination. Examines the regulatory, institutional, structural, political, and economic forces that underlie patterns of race and class-based discrimination and their implications for environmental health among diverse communities. Prerequisite: ES11 or permission from the instructor. R. A. MORELLO-FROSCH.

177. *African Environmental History* (History 197)
Interested students should register for the appropriate section of History 197.

179. *North American Environmental History* (History 179)
Interested students should register for History 179.

182. *Environmental Health and Disease* (Biology and Medicine 182)
Interested students should register for Biology and Medicine 182.

187. (1870) *Environmental Sociology* (Sociology 187)
Interested students should register for the appropriate section of Sociology 187.

188. *Contested Environmental Illness—Research Seminar* (Sociology 187)
Interested students should register for the appropriate section of Sociology 187.

190. *Introduction to Geographic Information Systems* (Geological Sciences 132)
Interested students should register for Geological Sciences 132.

192. (1920) *Analysis and Resolution of Environmental Problems*
A fieldwork course that uses a significant local environmental issue to illustrate the interplay of physical and natural sciences, social sciences, and values. Each class member has responsibility for detailed investigation of a facet of this issue, for presenting conclusions to the class, and for preparing policy recommendations that reflect a synthesis of the understanding developed by the class. Prerequisite: ES 11. Enrollment limited. Written permission required. THE STAFF.
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195, 196. (1990, 1971) Independent Study
Individual analysis of environmental issues, required for all environmental studies concentrators.

Primarily for Graduates

201. (2010) Special Topics in Environmental Studies
A mandatory seminar for graduate students in environmental studies. May be repeated for credit. Written permission required.

268. (2680) Ecosystem Modeling for Non-Programmers (Biology and Medicine 268)
Emphasizes hands-on experience building ecosystem models. Students build about 8 models in an intensive three-week class in January at the Marine Biological Laboratory, then build their own model as a term project over the Spring semester. Term projects will be in the form of a manuscript formatted for publication in Ecology. Prerequisites: Differential Calculus, Integral Calculus, basic grasp of Ecology and Biogeochemistry. Enrollment limited. Written permission required. M. D. Bertness and O. E. Sala.

270. (2700) Graduate Seminars†

295. (2980) Reading and Research
First semester of thesis research during which a thesis proposal is prepared. Section numbers vary by instructor. Please see the registration staff for the correct section number to use when registering for this course.

296. (2981) Reading and Research
Second semester of thesis research. Section numbers vary by instructor. Please see the registration staff for the correct section number to use when registering for this course.

299. (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. No course credit.

Ethnic Studies

Ethnic studies at Brown is multidisciplinary and comparative, occurring in many departments throughout the University, encompassing relevant knowledge and methodology from the humanities, sciences, and social sciences.

An undergraduate concentration in ethnic studies was established in 1997. Sponsored by the Center for the Study of Race and Ethnicity in America, the interdisciplinary and comparative concentration examines the construction of race and ethnicity in social, cultural, historical, political, and economic contexts.

For additional information about the Center for the Study of Race and Ethnicity in America, please visit: http://www.brown.edu/Departments/Race_Ethnicity/

Undergraduate Program

For a complete description of the standard concentration program leading to the A.B. degree, please visit: http://www.brown.edu/Administration/Registrar/concentration.html
Courses of Instruction

Primarily for Undergraduates

9. (0090) Freshman Seminar in Ethnic Studies
A seminar designed for students interested in Ethnic Studies who are in their first year of study at Brown. No special background is required. All students are welcome. In order to preserve an intimate environment for dialogue, and to promote active participation of all students, enrollment will be limited.

   Living for Change: Movements for Social Justice
   Enrollment limited. Written permission required. M. J. GARCIA.

10. Introduction to Feminist Theory (Gender Studies 10)
    Interested students should register for Gender Studies 10.

12. Introduction to Cultural Anthropology (Anthropology 10)
    Interested students should register for Anthropology 10.

17. Africana History and Society before 1800 (Africana Studies 17, History 96)
    Interested students should register for Africana Studies 17.

19. Topics in Ethnic Studies

20. Seminars in Writing, Literatures, and Cultures†

21. Blacks in Latin American History and Society
    (Africana Studies 21)
    Interested students should register for Africana Studies 21.

23. Culture and Health (Anthropology 23, BioMed-Community Health 23)
    Interested students should register for Anthropology 23.

24. The Postcolonial Asia Pacific† (English 20)
    Interested students should register for the appropriate section of English 20.

26. Growing Up Ethnic and Multicultural (Anthropology 25, University Courses 56)
    Interested students should register for Anthropology 25.

27. (0270) Introduction to U.S. Latinas/os History†
    This class will focus on the of people of Latin American descent (Latians/os) living in the region known today as the United States. Our focus will include watershed moments as well as important themes including land dispossession, immigration, segregation and discrimination, community and identity formation, and racialization. No prerequisites are required. Enrollment limited. Written permission required. M. J. GARCIA.

42. Latino/a Theatre & Performance (Theatre, Speech and Dance 42)
    Interested students should register for Theatre, Speech and Dance 42.

50. (0500) Introduction to American/Ethnic Studies (American Civilization 75, Sociology 50)
    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. M. J. GARCIA.
65. “Model Minority” Writers: Cold War Fictions of Race and Ethnicity†

71. Introduction to African American Literature, 1926 - Present
(English 71, Africana Studies 71, Ethnic Studies 36)
Interested students should register for English 71.

73. Introduction to Asian American Literature (English 73)
Interested students should register for English 73.

79. (0790) Topics in Ethnic Studies
Enrollment limited. Written permission required.

   Latina/o Literature
   This course will introduce students to a broad array of Latina/o literature-fiction, poetry, drama, and graphic novels. While there is a long tradition of Latina/o literature in the United States, we will focus primarily on a period from 1970 to the present. Aimed to familiarize students with debates in the field, the readings will also include critical essays. Enrollment limited. Written permission required. R. E. RODRIGUEZ.

80. Introduction to Human Development and Education
(Education 80)
Interested students should register for Education 80.

81. Belonging and Displacement: Cross-Cultural Identities
(Portuguese and Brazilian Studies 81)
Interested students should register for Portuguese and Brazilian Studies 81.

85. Biological and Social Context of Human Disease
(Biology and Medicine 85, Environmental Studies 85)
Interested students should register for Biology and Medicine 85.

98. Jews and Whiteness† (Judaic Studies 98)
Interested students should register for the appropriate section of Judaic Studies 98.

For Undergraduates and Graduates

103. The Psychology of Race, Class, and Gender (Education 143)
Interested students should register for Education 143.

106. Race, Culture, and Ethnic Politics† (Anthropology 106)
Interested students should register for Anthropology 106.

112. Peoples and Cultures of the Americas† (Anthropology 112, Latin American Studies 151)
Interested students should register for Anthropology 112.

113. Native North Americans in the Twentieth Century
(Anthropology 119)
Interested students should register for Anthropology 119.

114. Native North American Cultures† (Anthropology 114)
Interested students should register for Anthropology 114.

121. The American Experience: Southeast Asian Refugees
(Anthropology 125, American Civilization 190)
Interested students should register for Anthropology 125.

122. Ethnic American Folklore: Continuity and the Creative Process
(Anthropology 122)
Interested students should register for Anthropology 122.
123. *Ethnicity, Race, and Gender in the Americas*†
(Anthropology 123)
Interested students should register for Anthropology 123.

127. *Race, Class, and Ethnicity in the Modern World* (Sociology 127, Urban Studies 127)
Interested students should register for Sociology 127.

129. *American Roots Music* (Music 129)
Interested students should register for Music 129.

131. *African American Politics* (Political Science 131, Public Policy and American Institutions 131, Urban Studies 131)
Interested students should register for Political Science 131.

Interested students should register for Political Science 132.

133. *Globalization, Immigration and Postcolonial Identity*†
(English 176)
Interested students should register for the appropriate section of English 176.

137. *Impact on Colonialism: Gender and Nationalism in India*†
(Anthropology 137)
Interested students should register for Anthropology 137.

138. *Women in Socialist and Developing Countries*†
(Anthropology 138)
Interested students should register for Anthropology 138.

151. *Chicana/o Cultural Studies*† (English 176)
Interested students should register for the appropriate section of English 176.

155. *Harlem Renaissance* (English 171)
Interested students should register for the appropriate section of English 171.

158. *Cross-Cultural Perspectives on Child Development* (Education 158, Anthropology 136, Psychology 158)
Interested students should register for Education 158.

160. *Topics in Ethnic Studies*

163. *“Extravagant” Texts: Advanced Studies in Asian American Literatures*† (English 171)
Interested students should register for the appropriate section of English 171.

Interested students should register for the appropriate section of Africana Studies 102.

166. *African American Literature: Writings from Slavery Through Reconstruction*† (English 156)
Interested students should register for the appropriate section of English 156.

(English 176)
Interested students should register for the appropriate section of English 176.

Interested students should register for American Civilization 174.
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177. Border Visions: Distortions in Literature, Film, Music, and Performance of The Mexican/American Frontier† (English 176)
Interested students should register for the appropriate section of English 176.

179. Mediating Color in African American Literature: Nineteenth-and Twentieth-Century Fiction (English 176)
Interested students should register for the appropriate section of English 176.

185. Postmodern Travel Fiction (English 185)
Interested students should register for the appropriate section of English 185.

187. (1870) Seminars in Ethnic Studies
Enrollment limited. Written permission required.

189. (1890) Topics in Ethnic Studies

190. (1900) Senior Seminar in Ethnic Studies
Seminar for senior ethnic studies concentrators. Exposes students to critical issues in the study of race and ethnicity. Students are encouraged to develop a major essay or thesis on race and ethnicity. Enrollment limited. Written permission required.

191, 192. (1910, 1920) Senior Thesis

196. Public Education and People of Color in U.S. History (Education 121, History 198)
Interested students should register for Education 121.

197. The Mexican Revolution (History 197)
Interested students should register for the appropriate section of History 197.

Primarily for Graduates

202. Educational Leadership in Diverse Settings: Research, Policy, and Practice (Portuguese and Brazilian Studies 202)
Interested students should register for the appropriate section of Portuguese and Brazilian Studies 202.

226. Ethnicity, Race and Nationalism† (Anthropology 226)
Interested students should register for Anthropology 226.

255. Asian American Political Movements to 1970† (American Civilization 255)
Interested students should register for the appropriate section of American Civilization 255.

Interested students should register for American Civilization 260.

276. Topics in Ethnic Studies

Contemporary African American Literature and the End(s) of Identity (English 276, Africana Studies 276)
Interested students should register for English 276.
Center for Fluid Mechanics, Turbulence and Computation

Established in 1986, the Center for Fluid Mechanics, Turbulence and Computation was founded to promote research at Brown University in fluid mechanics, the study of turbulent flows and transition phenomena, the use of scientific computation in fluid mechanics research, and topics of related scientific interest. Participating members of the center include faculty from the Division of Applied Mathematics, the Division of Engineering as well as faculty from other departments. The center provides a forum for the development of new research topics and the sharing of research experience. Present areas of research range from micro-scale and nano-scale flow systems, multi-scale modeling of complex fluids, micro-transport and dynamic self-assembly, to biomedical and biological applications in arterial blood flow and the swimming of micro-organisms, as well as established areas such as multiphase flow and turbulence. The center attracts each year distinguished visiting scientists and provides a strong program for postdoctoral research, through sponsored research.

Current information on activities and research may be found at the Center’s website at http://www.cfm.brown.edu.

French Studies

Professors Ahearn, Bensmaïa (Chair), Bossy*, Durand (Emerita), Golopentia, Majewski (Emeritus), Ridgely (Emeritus), Saint-Amand,† Wimmers (Emerita, Research Professor); Associate Professors Krause, Schultz, Seifert‡; Assistant Professor Ravindranathan; Visiting Assistant Professor Etoke; Senior Lecturers Waryn**, Wiart; Lecturer Kervennic.

Undergraduate Program

For a complete description of the standard concentration program leading to the A.B. degree, please visit: http://www.brown.edu/Administration/Registrar/concentration.html.

Graduate Programs

Master of Arts. Work for the master’s degree may be wholly in French Studies or may include one or more courses in such related fields as a second literature, comparative literature, linguistics, history, philosophy or art. A candidate is expected to read, speak, and write French and to have an adequate knowledge of French literature. Demonstration of proficiency in reading either German or, normally, another Romance language will be required.

Doctor of Philosophy. The general requirements for the doctorate are outlined below:
1. Command of the French language, spoken and written, and knowledge of its structure and potentialities for expression. Candidates in French must demonstrate proficiency in reading two other languages, including another Romance Language.

* On leave 2006–07
† On leave Sem II 2006–07
‡ On leave Sem II 2006–07
** Director, Brown-in-Paris 2006-07
2. An understanding of the origins, development, and structure of the French language and its connection with related languages. FR 102, Histoire de la langue française, is required of all candidates.

3. Knowledge of French and Francophone literature, consisting of wide acquaintance with the chief movements and writers and a thorough knowledge of selected major authors and works, including their historical and intellectual environment.

4. A limited number of approved graduate courses in a field closely related to the major interest of the candidate may be included in the doctoral program. Such courses will usually be chosen from comparative literature, a second literature, or modern culture and media, but study in related fields may be approved on presentation of sufficient evidence of its relevance to the intellectual purposes of the candidate.

5. Teaching experience under supervision. A knowledge of Latin is strongly recommended, and will be required in certain research fields. FR 290 (Teaching Methods) is required of all candidates.

For more information see the French Studies departmental website: http://www.brown.edu/Departments/French/index.html

Courses of Instruction

Primarily for Undergraduates

10-20. (0100-0200) Basic French
A two-semester course. Five meetings a week for oral practice. 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 FR 50 after FR 20. Enrollment limited. Written permission required. THE STAFF.

22. (0220) Reading French in the Arts and Sciences
Designed to develop the reading competence in French for graduate students (or advanced undergraduates with permission of the instructor). Fundamentals of grammar and syntax are emphasized as well as reading skills in the fields of individual students. Successful completion should satisfy the foreign language requirement for graduate students in other departments. (Consult the relevant department.) No prerequisites. Not for graduate-level credit. Written permission required for undergraduates. THE STAFF.

30. (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 an audio CD, videos, a French film, short stories, and various other authentic documents. Prerequisite: FR 20 or placement (Previous experience with French is required to take this class). Four meetings per week plus a 50-minute conversation section with TAs. THE STAFF.

40. (0400) Intermediate French II
Prerequisite: FR 30, FR 20 with written permission, or placement. Continuation of FR 30 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. THE STAFF.
50. (0500) Writing and Speaking French I
Prerequisite for FR 60. Prerequisite: FR 20 accelerated track (with permission), FR 40, or placement. A four-skill language course that stresses oral interaction in class (three meetings plus one conversation section). Materials include audio CD’s, films, press articles, and literary excerpts, as well as a multimedia exploration of Paris: “Dans un Quartier de Paris”. Writing is organized around specific tasks and systematic grammar practice. The Staff.

52. (0520) Introduction to the Literary Experience
Language course in which discussions and writing exercises are based on readings in French and Francophone literature. Includes grammar review and some film screenings. Students are expected to keep a reading journal and to write short response papers. Equivalent to FR 50 in language sequence. The Staff.

60. (0600) Writing and Speaking French II (University Courses 51)
Prerequisite for study in French-speaking countries. Continuation of FR 50. Prerequisite: FR 50 or 52, or placement. 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. The Staff.

72. (0720) First Year Seminar
Enrollment limited. Written permission required.

75. (0750) Literature and Social Thought

76. (0760) Intensive Introduction to Literature and Literary Methods

For Undergraduates and Graduates

100. (1000) Masterpieces of French Literature from the Middle Ages to the Present
101. (1010) Masterpieces of French Literature from the Middle Ages to the Present
102. (1020) Early French Language and Literature
103. (1030) Studies in French Literature of the Renaissance†
104. (1040) Studies in French Literature of the Seventeenth Century
105. (1050) Studies in French Literature of the Eighteenth Century
106. (1060) Studies in French Literature of the Nineteenth Century
107. (1070) Studies in French Literature of the Twentieth Century
110. (1100) Medieval French-Speaking Cultures
111. (1110) Studies in the French Novel
112. (1120) Studies in the French Theater
113. (1130) Studies in French Poetry
115. (1150) Studies in French Cinema
121. (1210) Studies in Major French Writers†
An intensive analysis of the works of a single important literary figure.
131. (1310) Special Topics in French Studies I
132. (1320) Special Topics in French Studies II
133. (1330) Studies in French Literature in English Translation†
Readings of French literature in translation. Offerings may include a survey covering texts from the Renaissance to the present, or may be focused on a particular period, genre, or topic.

141. (1410) French Culture and Civilization

142. (1420) French Society Today†

151. (1510) Advanced Written and Oral French
Follows FR 60. Development of oral skills via presentations, debates, conversation, and discussions based on a variety of topics. Students interested in “French Society Today” should register for section 1 in the fall or spring; those interested in “Travel and Travelers” should register for section 2 in the spring. Writing activities: essays, e-mails, commentaries, journals, etc. May be repeated 3 times for credit. A. J. Wiart and Y. Y. Kervennic.

161. (1610) Advanced Written French
Written permission required.

171. (1710) Topics in Francophone Studies I

172. (1720) Topics in Francophone Studies II

190. (1900) Senior Seminar

198. (1990) Senior Thesis
Independent study in an area of special interest to the student, with close guidance of a member of the staff, and leading to a major paper. Required of candidates for honors, and recommended for all senior concentrators.

Primarily for Graduates

204. (2040) Studies in Medieval French Literature

211. (2110) Studies in French Literature of the Renaissance

213. (2130) Studies in French Literature of the Seventeenth Century

215. (2150) Studies in French Literature of the Eighteenth Century

217. (2170) Studies in French Literature of the Nineteenth Century

219. (2190) Studies in French Literature of the Twentieth Century†

260. (2600) Studies in French Critical Theory

262. (2620) Seminar in French Studies

289. (2970) Preliminary Examination Preparation
For graduate students who have completed their course work and are preparing for a preliminary examination. No course credit.

290. (2900) Theory and Methods of Foreign Language Teaching (German 290, Italian Studies 290, Hispanic Studies 290)
Introduction to the theoretical and practical aspects of foreign language learning and teaching. Specific topics include theories of language acquisition, an overview of teaching practices and the principles underlying them, selection and evaluation of textbooks, teaching materials, and learner variables. Students observe beginning language courses and do micro-teaching. Taught in English. Undergraduates may enroll with instructor’s permission. Interested students should register for GM 290. S/NC.
291. (2980) Reading and Research
Work with individual students in connection with special readings, problems of research, or preparation of theses.

292. (2980) Reading and Research
See Reading and Research (FR0291) for course description.

299. (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. No course credit.

Gender and Sexuality Studies

Undergraduate Program
For a complete description of the standard concentration program leading to the A.B. degree, please visit http://www.brown.edu/Administration/Registrar/concentration.html.

The courses listed below are sponsored by the Gender and Sexuality Studies Program. Additional courses are cross-listed from other departments and vary annually. For a list of current courses, please consult the Gender and Sexuality Studies Program website. http://www.pembrokecenter.org/

Courses of Instruction
Primarily for Undergraduates

9. (0090) First Year Seminars
These seminars for first year students provide an introduction to specific topics in the study of gender and sexuality in social, cultural, political, economic, or scientific contexts. Courses emphasize reading and discussion and introduce the interdisciplinary methods of Gender and Sexuality Studies in relation to the topic researched in each class. Enrollment limited. Written permission required. STAFF.

10. (0100) Introduction to Feminist Theory
An historical and cross-cultural introduction to the various strands of feminist theory. The course will cover a range of theoretical frameworks, examine the connections and discomforts between theory and activism, and explore the impact of feminist theories on contemporary thought. STAFF.

12. (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. STAFF.

For Undergraduates and Graduates

181, 182. (1810, 1820) Independent Study and Research
Independent reading and research for upper-level students under the direction of a faculty member.

196. (1960) Special Topics in Gender Studies
Independent research under the direction of a faculty member, leading to a thesis. Required of honors candidates.

Primarily for Graduates

An advanced research seminar in feminist theory and gender studies. Presentations made by Brown faculty, Pembroke Center fellows, visiting scholars, and students. Offered in conjunction with the Pembroke Seminar. Enrollment limited. Written permission required. S/NC.

Geological Sciences

Professors Cooper, Fischer, Forsyth, Head, Herbert, Hermance, Parmentier, Pieters, Prell (Chair), Schultz, J. Tullis; Associate Professors Gromet, Huang, Liang, Mustard; Assistant Professors Russell, Saal, Whiteside, Wyatt; Professors Emeritus Giletti, Hess, Imbrie, Matthews, Rutherford, T. Tullis, Webb, Yund.

Students in the geological sciences develop a comprehensive grasp of principles as well as an ability to think critically and creatively. Formal instruction places an emphasis on fundamental principles, processes, and recent developments, using lecture, seminar, laboratory, colloquium, and fieldtrip formats. Undergraduates as well as graduate students have opportunities to carry out research in current fields of interest.

The principal research fields of the department are geochemistry, mineral physics, igneous petrology, geophysics, structural geology, tectonophysics; hydrology; paleoceanography, paleoclimatology, sedimentology; and planetary geosciences. Emphasis in these different areas varies, but includes experimental, theoretical, and observational approaches as well as applications to field problems. Field studies of specific problems are encouraged rather than field mapping for its own sake. Interdisciplinary study with other departments and divisions is encouraged.

The Geo-Chem and the Lincoln Field Buildings provide excellent office space and laboratory facilities for a wide range of geological, geochemical, geophysical, and planetary research. Facilities in the new MacMillan Building include laboratories and lecture rooms, primarily for undergraduate courses and research projects.

The geological sciences section of the Sciences Library includes complete sets of the principal American and foreign periodicals, publications of the U. S. Geological Survey, state and foreign geological survey publications, and general reference books. A complete set of published topographic and geologic maps for the United States is also available.

The Brown Regional Planetary Data Center is located in the Lincoln Field Building. This center, one of seven such facilities in the country, is operated as a cooperative effort by the National Aeronautics and Space Administration (NASA) and Brown University. It contains an extensive collection of photographic prints and rapid access images of planetary bodies. These data include recent images obtained by the U.S. and Soviet space programs of Mercury, the Moon, Mars, Jupiter, Saturn, Venus, and the satellites and rings of Jupiter and Saturn. The Rhode Island Space Grant in the Lincoln Field Building offers a variety of programs and undergraduate scholarships designed to increase scientific literacy through outreach activities in area schools and to the general public.
Undergraduate Programs

The department offers four standard degree programs, each of which leads to a bachelor of arts or bachelor of science degree. The basic concentration in Geological Sciences is complemented by three interdisciplinary concentrations: Geology-Biology, Geology-Chemistry, and Geology-Physics/Math. Courses in any of the four geoscience areas may be appropriate for a geology focus in Environmental Sciences. The Geology-Biology option places more specific emphasis on the interaction of biology and geology, and is recommended for students who wish to gain a better understanding of the origin and development of life as interpreted from the geologic record, the evolution of climate and environments, and dynamic processes in the stratigraphic record. The Geology-Chemistry and Geology-Physics/Math options provide increased emphasis upon chemical and physical processes and phenomena occurring on and within the Earth. These options are recommended for students who wish to apply chemical and physical principles toward an understanding of Earth history and Earth processes. The Environmental Sciences (geology focus) option is also available for students who wish to address the impacts of society on the environment or of the environment on society. The fit of each of these options to career objectives should be discussed with the student’s undergraduate advisor. For each of these programs, specific courses required are listed with the four geology concentrations and with the Sc.B. in Environmental Sciences under the Environmental Studies program. To suit individual backgrounds and goals, students may enroll in one or more independent research courses to pursue topics of special interest not covered in depth by normal course offerings.

Students planning to continue with graduate level study in the geological sciences are advised to complete a Senior Research Thesis, and seriously consider taking at least two semesters each of Mathematics and Physics and one semester of Chemistry. Students planning to specialize in paleontology or environmental geosciences should take at least one year of Biology.

Introductory Courses: GE 16 (First-Year Seminars) are for first-year students. They provide an introduction to Earth, planetary and environmental science through in-depth exploration of topics at the forefront of scientific research and their application to society. GE 22, 23, and 24 are introductory courses that provide a foundation for more advanced offerings. Specific prerequisites are indicated in individual course descriptions. Introductory courses designed for students interested in a liberal arts exposure to the sciences include GE 1, 5, 6, and 7.

For a complete description of the following standard geoscience concentration programs leading to the bachelor’s degree, please visit:

http://www.brown.edu/Administration/Registrar/concentration.html

Geological Sciences
Geology-Biology
Geology-Chemistry
Geology-Physics/Mathematics

Any of the above geoscience programs is suitable for students interested in environmental science; students may also work with geology faculty as part of the Environmental Science concentration program (listed as Sc.B. under Environmental Studies).

Honors: Honors work in the geological sciences involves completion of a written senior thesis evaluated by three members of the staff, an oral presentation of the results, and a superior record in the concentration.
Graduate Programs

The graduate program in Geological Sciences is intended for students of exceptional ability and interest. Admission to graduate study is usually limited to candidates for the doctoral degree, and is normally accompanied by the award of a teaching or research assistantship or a University Fellowship. Assistants are expected to devote approximately 20 hours per week to their teaching or research duties. Summer research fellowships are available to graduate students in good standing. The graduate enrollment is limited to approximately fifty students to ensure proper research facilities and close contact between the students and the faculty. Because of the interdisciplinary nature of the Geological Sciences, candidates are encouraged to apply from undergraduate backgrounds including biology, chemistry, mathematics, physics, and engineering, as well as geology.

The degrees awarded by the department include A.M., Sc.M., and Ph.D.

Master of Arts

The requirements include a minimum of 8 courses of which no more than 2 can be independent research courses (Geological Sciences 211, 212).

Master of Science

The requirements include a minimum of 8 courses of which no more than 2 can be independent research courses (Geological Sciences 211, 212), and demonstrated ability to pursue independent research. This may be demonstrated by the submission of a written master’s thesis, a scientific publication, or a formal written summary of activities and accomplishments in research courses. There is no formal language requirement.

Doctor of Philosophy

There are no formal course requirements for the Ph.D. degree. Students with the approval of their research advisory committee devise an appropriate program of study in their major and minor areas. For a student entering with a bachelor’s degree this will normally result in a program of 10 to 14 courses, not including thesis research. Students are encouraged to take courses in other departments where appropriate.

A student is required to pass the preliminary examination to establish his or her candidacy for the Ph.D. degree. This examination is generally taken at the end of the fifth semester for those entering with a bachelor’s degree and by the end of the fourth semester for those entering with a master’s degree. For the purposes of this examination, it is presumed that the candidate will be able to display a broad knowledge of scientific disciplines related to his or her research area. In order to accomplish this, it is recommended that students take a reasonable breadth of courses in most of the major areas. Students entering with a minimal Earth science background will normally remedy this deficiency during the first two years of graduate work.

The department tries to be flexible in its graduate program, placing the responsibility for the graduate students’ education on the students themselves. Course work is supplemented by seminars and colloquia given by visitors and members of the department, and by field trips. Certain departmental requirements can be waived if the individual can justify the educational value of the suggested changes in a petition to the department Graduate Program Representative. Opportunities exist within the department and university for a wide variety of teaching experiences and training.

Research programs within the department are divided into five main themes: (1) structure and dynamics of the solid Earth and planets; (2) Earth system history and the
changing global environment; (3) planetary geoscience and the nature of planetary surfaces, interiors, and processes; (4) properties and processes of Earth and planetary materials; (5) environmental science including hydrology, estuarine processes, and environmental remote sensing. Cooperative research and integrated teaching programs exist within these groups; a student’s research and course program may lie mainly within one of these groups or it may overlap two or three groups.

The Geophysics and Structural Geology group investigates the structure and dynamics of the solid Earth and planets. Current projects in geophysics include: seismological field studies of crust and mantle structure combined with dynamic modeling of the continental lithosphere and subduction zones; computer modeling studies of convection and seismic wave propagation within the Earth and other planets; seagoing investigations of the tectonics of mid-ocean ridges using magnetic and gravity anomalies, ocean-bottom seismometers, multibeam bathymetry and side-scan sonar. Structural geology studies of deformation processes take place on scales from individual mineral grains to whole mountain ranges. Current research includes: mechanics of faulting, and prediction and focal mechanism of earthquakes; experimental determination of deformation mechanisms and strength of rocks and minerals at crustal and upper mantle conditions. (See also environmental geophysics research covered in Environmental Science below.)

The Earth System History group uses geological, biological, meteorological, oceanographic, and archeological studies to investigate global changes in the climate, lakes, oceans, and biosphere. Research emphasizes integration of quantitative reconstruction and modeling of past climates. Current projects include: testing of global climate and biome models; dynamics of Indian Ocean monsoon and upwelling systems; orbital forcing on climate variations from Cretaceous through Pleistocene times; dynamics of vegetation changes in response to Late Quaternary climate changes; controls on carbonate budget of the deep sea during the Cenozoic; modeling of continental margin sediment accumulations in response to sea level changes; alkenone estimates of past ocean temperatures. (See also Environmental Science below.)

The Planetary Geosciences group investigates the structure, composition, and evolution of planets, satellites, and meteorite parent bodies using a combination of photogeology, laboratory experiments, geologic analogs, remote sensing approaches, spectroscopic techniques, physical modeling, and theoretical analysis. Investigations also include Earth processes and field studies, environmental change, and placing Earth in the context of planetary evolution. Interdisciplinary and comparative studies include: nature and origin of tectonic features on Venus, Mars, the Moon and icy satellites; models of volcanic processes in contrasting planetary settings; effects of impacts on the atmosphere and lithosphere of Earth, Venus, and Mars; relationship of geochemical and geophysical processes to crustal evolution of planets, moons, and asteroids; experimental, theoretical, and geological studies of impact cratering; rates and styles of gradation on Mars through time; assessment of multiring basin formation on early geological evolution of planetary bodies; spatial and temporal dynamics of environmental change on the Earth in the context of physical and societal forcing functions (see also Environmental Science below).

Research on the properties and processes of Earth and planetary materials is conducted by members of the Geochemistry/Mineralogy/Petrology group and involves experimental determination of basic physicochemical data for geological materials and applications to fundamental problems of magma genesis, volcanism, and plate motions on Earth and other planets. Current research includes: experimental studies of fluid-melt-crystal equilibria with application to magmatic processes; theoretical studies of silicate melts; isotopic and field studies bearing on the tectonic evolution of orogenic belts; experimental studies of
mechanisms and kinetics of diffusion and related solid-state processes in minerals, with applications to thermal history of igneous and metamorphic rocks.

Research in the Environmental Sciences includes environmental remote sensing, hydrology, environmental geophysics, estuarine processes, and global climate change. Quantitative modeling of remote sensing data is being used to study environmental change and the impacts of anthropogenic stress. Focus study areas include semiarid ecosystems as well as spatial and temporal dynamics of estuaries, where problems such as the impacts of thermal effluent, timing and nature of algal and phytoplankton blooms are being studied. Watershed hydrology involves the integration of computer models with ground truth field studies of watersheds in the Northeast, and includes questions such as what is the active role that groundwater plays in short term and long term stream flow generation. Global climate initiatives include testing the ability of global climate models to reconstruct past marine and terrestrial environments, and estimation and evaluation of tropical sea surface temperature variability.

Strong departmental ties exist with Brown’s Applied Math, Biology, Chemistry, Engineering, Environmental Studies and Physics departments and divisions. The joint program with the Marine Biological Laboratory (MBL) at Woods Hole offers unique research and educational opportunities. Various cooperative programs give students access to courses and facilities at the Lamont-Doherty Geological Observatory at Columbia University, URI Graduate School of Oceanography, Woods Hole Oceanographic Institution, The Oak Ridge National Laboratory New Scientist Program, and Russian and European space research institutions. Students have access to the Brown/NASA-sponsored Northeast Regional Planetary Data Center and the National Space Grant College and Fellowship Program.

For additional information please visit the department’s website at: http://www.geo.brown.edu/.

Courses of Instruction

Primarily for Undergraduates

1. (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 non-science concentrators (science concentrators should take GE 22). L. P. GROMET.

5. (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. J. W. HEAD.

6. (0060) Earthquakes, Volcanic Eruptions, and other Geologic Hazards
   Geologic hazards include earthquakes, volcanic eruptions, landslides, mudflows, shoreline erosion, and, rarely, meteorite impacts; they can cause serious damage and loss of lives. Lectures focus on Earth and the dynamics of processes resulting in these hazards. Students
will analyze the causes of these catastrophes, assess their impact on mankind, and study prospects for predicting and mitigating their effects. Lab or discussion section every two weeks. THE STAFF.

7. (0070) *Introduction to Oceanography*
Examines the ocean’s role in global (and local) change, emphasizing the ocean as an evolving, dynamically balanced ecosystem. Focus on physical/chemical/biological systems’ interconnections needed to understand the natural variability of the ocean on various time and space scales, from El Niño to global warming. Three lectures, one section meeting weekly; written exercises on oceanographic problems; two field trips to study estuarine and coastal processes. THE STAFF.

16. (0160) *First-Year Seminar*
These seminars for first-year students provide an introduction to Earth, planetary and environmental science through in-depth exploration of topics at the forefront of scientific research and their application to society. Sections provide a highly interactive learning environment and emphasize critical reasoning, research methods, interdisciplinary connections, and effective oral and written communication. No prerequisites. Enrollment limited. Written permission required.

22. (0220) *Physical Processes in Geology*
Introduction to the form and origin of interior and surface features of Earth, with emphasis on understanding the physical processes that produced them. Topics include interior processes (plate tectonics, mountain building, volcanism, earthquakes, and flow of solid rocks) and surface processes (atmospheric and oceanic circulation, flow of rivers, glaciers, and groundwater). Laboratory and field trips arranged. Intended for science concentrators or those wishing in-depth treatment. J. TULLIS and K. M. FISCHER.

23. (0230) *Geochemistry: Earth and Planetary Materials and Processes*
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 GE 1 or 22. L. P. GROMET and R. F. COOPER.

24. (0240) *Introduction to Earth Systems History* (Environmental Studies 24)
Introduces Earth’s surface environment evolution—climate, chemistry, and physical makeup. Uses Earth’s carbon cycle to understand solar, tectonic, and biological cycles’ interactions. Examines the origin of the sedimentary record, dating of the geological record, chemistry and life on early Earth, and the nature of feedbacks that maintain the “habitable” range on Earth. Two field trips; five laboratories arranged. Prerequisite: GE 22; GE 23 recommended. T. D. HERBERT.

31. (0310) *Fossil Record*
Evolutionary history of the major groups of land plants and animals, including primates. Attention is given to the use of fossils as indicators of past environments including ice ages. Two field trips, one in Rhode Island and one in Connecticut. Two lectures per week; two hour lab arranged. Prerequisites: GE 22, 23, or 24; BI 20; or written permission. J. H. WHITESIDE.

58. (0580) *Foundations of Physical Hydrology* (Environmental Studies 58)
Qualitative introduction to the dynamics of watersheds and groundwater flow from an intuitive perspective. Lays the foundations for understanding the physical mechanisms by
which water is transported throughout a hydrologic system. Provides background for future studies, but is primarily designed to enable informed citizens to thoughtfully critique water management practices and public policy. Pre-college math and physics background is expected. J. F. HERMANCE.

81. (0810) Planetary Geology
Geology of solid planets. Focuses on a mission to Mars through an understanding of processes that shape planetary surfaces. Terrestrial analogs, conceptual models, and laboratory simulations are used as reality checks. Integration of geologic processes through time reveals the geologic evolution of the planets. Three lectures and one discussion session per week. Prerequisite: GE 1 or 5 or 22 or written permission. P. H. SCHULTZ.

For Undergraduates and Graduates

110. (1100) Global Physical/Descriptive Oceanography
Examines physical characteristics, processes, and dynamics of the global ocean to understand circulation patterns and how they relate to ocean chemistry and large scale climate change. Assignments address origin and distribution of water masses, heat and water budgets, thermohaline and wind-driven circulation systems, dynamics of the oceanic conveyor belt, and El Niños. Offered alternate years. Written permission required. W. L. PRELL.

111. (1110) Estuarine Oceanography (Environmental Studies 111)
Examines physical, chemical, and biological characteristics of local estuaries using field measurements, analysis of field data, and interpretation of processes; field investigation results will be prepared as a cooperative class report. Topics include: tidal and circulation processes, salinity and freshwater fluxes, watershed pollutants, estuary flushing rates, and estuary ecosystems. Primarily for students with experience in the sciences. Prerequisites: MA 9, 10, or equivalent. Enrollment limited. Written permission required. W. L. PRELL.

113. (1130) Ocean Biogeochemical Cycles (Environmental Studies 113)
A quantitative treatment of the cycling of biologically important elements in the world ocean. Special attention 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 atmosphere through exchange with the surface ocean. For science concentrators. Prerequisite: CH 33 or equivalent, or permission of the instructor. T. D. HERBERT.

115. (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: GE 7, GE 24 or higher level or permission of the instructor. J. M. RUSSELL.

124. (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: GE 22, 23, 24, or written permission. GE 31, 141 are recommended. J. M. RUSSELL and T. D. HERBERT.
132. (1320) Introduction to Geographic Information Systems for Environmental Applications (Environmental Studies 190)
Introduction to the theory and application of digital mapping and cartographic modeling. Class covers the principles of digital data structures, analytical cartography, and quantitative information design. Related work in image databases also discussed. Extensive training in ESRI-based digital mapping tools will be provided. Preference is given to Sr. Geo concentrators. Enrollment limited. Written permission required. L. CARLSON.

133. (1330) Global Environmental Remote Sensing (Environmental Studies 133)
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. Prerequisites: MA 9, 10; PH 6; background courses in natural sciences; or permission of the instructor. J. F. MUSTARD.

137. (1370) Environmental Geochemistry (Environmental Studies 137)
The course will examine the biogeochemical cycling, fate and transport of chemicals in the atmospheric and aquatic environments. Topics such as chemical weathering, natural water pollution and remediation, acid deposition, global warming and air pollution will be examined through natural ecosystem examples from rivers, lakes, estuaries, and ocean. Field trips and laboratory arranged. Prerequisites: CH 10 or CH 33. Y. HUANG.

138. (1380) Environmental Stable Isotopes
Introduction to the concepts, analytical methods, theory and environmental applications of stable H, O, C, N and S isotopes. Emphasis will be placed on theory and applications of light isotopes in paleoclimate studies, environmental hydrogeology and biogeochemistry. Prerequisites: CH 10, GE 22, or GE 23 recommended or written permission. Y. HUANG.

141. (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: GE 23; CH 10 or CH 33. Y. LIANG.

142. (1420) Petrology
Introduction to the origin of igneous and metamorphic rocks. Emphasis on principles and understanding rather than facts and memorization. Principles are used to extract information concealed in the rocks about their formation, processes, sources and evolution with time. Laboratory work focuses on rock hand samples and microscopic textures. Field trips, laboratory arranged. Prerequisites: GE 141 or written permission. A. SAAL.

145. (1450) Structural Geology
Introduction to the geometry, processes and mechanics of rocks deformed by fracture, faulting and solid state flow, on scales from microscopic to mountain ranges. Labs involve geologic maps and cross sections, 3D visualization of structures, study of deformed rocks and model experiments. Field trips and labs arranged. Prerequisites: GE 22 and 23 or 24. J. TULLIS.

158. (1580) Elements of Physical Hydrology (Environmental Studies 158)
A comprehensive introduction for science, engineering, mathematics and environmental science students to all aspects of the physical hydrology of precipitation, surface runoff and groundwater flow. Three lecture/discussion sessions will emphasize the quantitative elements of predictive physical models. Extensive class discussion will assess the practical
application of specific models. Group collaboration encouraged. One recitation period/week. Lab. No exams. Written permission required. J. F. HERMANCE.

159. (1590) *Topics in Geological Sciences*

160. (1600) *Environmental and Engineering Geophysics* (Environmental Studies 160)
How do hydrologists, engineers or archeologists investigate the subsurface without digging or drilling? Is water present? How deep is bedrock? Are there buried hazardous waste drums? Artifacts? Students using actual instruments in the field (seismic, radar, gravity, resistivity, electromagnetic and magnetic techniques) will investigate off-campus sites during weekly afternoon field excursions. Prerequisites: Math 10, Physics 6, or equivalents. No exams. J. F. HERMANCE.

161. (1610) *Solid Earth Geophysics*
Surveys basic geophysical techniques for determining the structure and dynamics of Earth’s interior. Topics include: global structure from seismic waves; gravity, magnetic field, and shape of the Earth; thermal processes within the Earth; structure of continental and oceanic lithosphere. Prerequisites: PH 47, AM 33. D. W. FORSYTH.

162. (1620) *Continuum Physics of the Solid Earth*
Physics of the Earth with emphasis on fundamental physical principles and mathematical tools. Topics include application of: conductive and convective heat transfer to cooling of the Earth; potential theory to interpretation of gravity anomalies; solid mechanics to deformation of Earth’s lithosphere; fluid mechanics to flow in the Earth’s interior and in porous media. Prerequisites: GE 22; AM 34; PH 47 or EN 51; or permission of the instructor. E. M. PARMENTIER.

165. (1650) *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. Prerequisite: GE 161 or permission of the instructor. Offered in alternate years. D. W. FORSYTH and K. M. FISCHER.

Geologic applications of remotely sensed information derived from interaction of electromagnetic radiation (X-ray, gamma-ray, visible, near-IR, mid-IR, radar) with geologic materials. Applications emphasize remote geochemical analyses for both terrestrial and extraterrestrial environments. Several spectroscopy and image processing labs. Prerequisites: GE 23, PH 6 or equivalent, or permission of the instructor. C. M. PIETERS.

181. (1810) *Physics of Planetary Evolution*
Evolution of planetary bodies based on geological and geophysical evidence derived from planetary exploration of the solar system. 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. Prerequisites: GE 5; PH 3, 4 or 5, 6; MA 9, 10; or permission of the instructor. Offered alternate years. E. M. PARMENTIER.

One semester is required for seniors in Sc.B. and honors program. Course work includes preparation of a thesis.

195. (1950) *Special Topics in Geological Sciences*
Written permission required.
196. (1960) **Special Topics in Geological Sciences**
Written permission required.

Primarily for Graduates

211, 212. (2980) **Research in Geological Sciences**

230. (2300) **Mathematical Models in the Geological Sciences†**
Review of matrix algebra and basic univariate statistics. Theory and practical applications of multivariate statistical models applicable to large arrays of data. Multivariate regression and correlation procedures; principal component analysis, cluster analysis, and dissimilarity measures. Prerequisite: MA 10. Recommended MA 52 and a course in statistics. Offered alternate years. THE STAFF.

233. (2330) **Advanced Remote Sensing and Geographical Information Systems**
Strategies and the physical principles behind the quantitative extraction of geophysical and biophysical measurements from remotely sensed data. Advanced methods of digital image processing and data integration. Introduction to Geographical Imaging Systems (GIS) and methods of integrating remotely sensed data into a GIS framework. Prerequisites: GE 133 or 171; MA 10; PH 6; or instructor permission. J. F. MUSTARD.

235. (2350) **Quaternary Climatology Seminar**
Discussion of current problems in paleoclimatology. Students analyze the literature and, when possible, do original analysis of their own on previously published data. Topics include: climate models, theory of ice age climates, air-sea-ice interactions, and history of Quaternary climates. Prerequisites: GE 135, or instructor’s permission. Offered alternate years. THE STAFF.

241. (2410) **Kinetics of Geochemical Processes**
Emphasizes kinetic theories and their geological applications. Topics include: rate laws of chemical reactions, rates of chemical weathering; fundamentals of diffusion, nucleation, crystal growth, and dissolution; transport theory. Prerequisite: GE 246 or equivalent. Written permission required. R. F. COOPER and Y. LIANG.

243. (2430) **Igneous Petrology**
Study of mineral equilibria in igneous rocks in relation to theoretical and experimental studies in silicate systems. Principles of the origin and evolution of igneous rocks in space and time. Offered alternate years. THE STAFF.

244. (2440) **Petrogenesis of Metamorphic Rocks**
Study of metamorphic rocks with emphasis on mineral equilibria, metamorphic facies, and metamorphic facies series. Topics include: metasomatism, mobile components, partial anatexis, and petrogenetic grids. Prerequisite: GE 246. Offered alternate years. THE STAFF.

246. (2460) **Phase Equilibria**
Principles of thermodynamics and phase equilibria in unary, binary, ternary, and multicomponent systems using analytical and graphical methods. Other topics include: solution theory, equations of state, and thermodynamics of surfaces. THE STAFF.

251. (2510) **Advanced Structural Geology**
A survey course emphasizing basic physical principles applied to problems in structural geology. Topics include fundamentals of stress and infinitesimal strain tensors, finite strain, deformation processes in rocks and minerals, and mechanics of folding, faulting and regional-scale deformation. One lab and a field trip. Prerequisites: GE 145 and MA 10, or equivalents. Offered alternate years. R. F. COOPER.
252. (2520) Numerical Geodynamics
Numerical methods are used for the solution of continuum physics problems arising in geophysics and structural geology. Skills developed for basic theoretical formulations and algorithms implementing finite element, finite difference, and boundary element methods. Course uses lectures and a computer project applying the methods and concepts to a significant research problem. Prerequisites: AM 33, 34; EN 175; or instructor’s permission. Offered alternate years. E. M. PARMENTIER.

263. (2630) Interpretation Theory in Geophysics
Basic statistical theory and its matrix algebra representation are used for a modern approach towards the optimum design of experiments, constructing model solutions to measurements, and describing nonuniqueness in models. Particular emphasis on generalized linear-inverse techniques. Introduction to stochastic processes and prediction. Prerequisites: GE 160 or 161; MA 29, 52, or AM 33, 34, and computer programming skills. Offered alternate years. D. W. FORSYTH.

265. (2650) Advanced Seismology
Theory of modern seismology will be applied to the imaging of Earth’s structures (from local to global scales) and determination of earthquake source models. Topics include elastic wave propagation, representation theorems, seismic tomography, moment tensors, source-time functions, and models of fault rupture. Prerequisites: GE 165 or written permission. Offered alternate years. K. M. FISCHER.

273. (2730) Isotope Geochemistry
A survey course emphasizing fundamental principles in isotope geochemistry, including nuclear systematics, nucleosynthesis, geochronological and stable isotope systems, and the application of radiogenic and stable isotopic tracers to geological problems. A. SAAL and L. P. GROMET.

281. (2810) Planetary Science Seminar
Focus on several areas of new research and current topics not necessarily covered in the core curriculum but of interest and importance to planetary scientists. Emphasis on critical evaluation of ideas, approach, results, and implications. Example topics include extrasolar-system planets, sample return issues, unanswered questions about Mercury, Pluto, etc. C. M. PIETERS.

284. (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. C. M. PIETERS.

285. (2850) Regolith Processes
Particulate material (regoliths) and soils develop on every planetary surface. Physical and chemical alteration of the uppermost surface results from interwoven active processes of specific environments. Understanding these processes and products is central to interpreting data returned from planetary surfaces. Regoliths reflect surface history over a variety of time scales. Several planetary environments are examined in detail. Prerequisites: GE 141, 171, 288, or instructor permission. C. M. PIETERS.

286. (2860) Planetary Volcanology
An examination of volcanism using observations of features and deposits on planetary bodies, comparing them to predictions from the theory of magma ascent and emplacement.
Attention to the influence of different variables (e.g. gravity, composition, temperature, pressure, and atmospheric effects). The history of planetary volcanism, its relation to thermal evolution, and comparative planetary volcanology are also addressed. Prerequisites: GE 142 or equivalent; or permission of the instructor. Offered alternate years. J. W. HEAD.

287. (2870) Planetary Evolution
Characteristics of one or more planetary bodies are examined to illustrate critical geological problems related to planetary formation and evolution. The surface and interior will be examined, as well as global geologic mapping and spacecraft data. Prerequisites: GE 142, 145, and 171, or instructor’s permission. May be repeated for credit. C. M. PIETERS.

288. (2880) Planetary Cratering
Impact cratering affects nearly every solid-body object in the solar system. A major impact can produce relief comparable to the highest terrestrial mountains in just a few minutes. Course assesses the impact cratering process and record in different planetary environments, at different scales, and at different times. Offered alternate years. Written permission required. P. H. SCHULTZ.

289. (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. No course credit.

291. (2910) Special Topics in Geological Sciences
Written permission required.

292. (2920) Special Topics in Geological Sciences
Written permission required.

299. (2990) Thesis Preparation
For graduate students who have met the tuition requirements and are paying the registration fee to continue active enrollment while preparing a thesis. No course credit.

**Center for Geometric Computing**

The Center for Geometric Computing, founded in the summer of 1995, consists of members of the faculty of the Department of Computer Science and their students. The center was initially established to enhance the visibility of a major research effort funded by the Army Research Office and the National Science Foundation.

Over the years, the center has expanded its core geometric computing research focus into new strategic directions with significant potential for technological and economic impact, including computer security, information assurance, digital signatures, wireless computing, and metrology. Funding for research in the above areas is currently provided by DARPA and NSF.

Members of the center are Professor Roberto Tamassia (director) and Professor Franco P. Preparata (past director). The center frequently hosts internationally known visitors participating in joint projects.

The main objective of the center is to facilitate the transfer of technology from basic research in computational geometry to several applied areas.

For additional information please visit the Center’s website at:
http://www.cs.brown.edu/cgc/cgc-brown.html
German Studies

Professors Crossgrove (Emeritus), Goodman (Chair), Love (Emeritus), Poore, Smith (Emeritus), Warnock (Emeritus); Associate Professor Kniesche; Assistant Professors Simanowski, Sng; Visiting Assistant Professor Brueggemann; Senior Lecturer Sokolosky; Adjunct Lecturer Weinstein.

Undergraduate Program

For a complete description of the standard concentration program leading to the A.B. degree, please see the Department website:

http://www.brown.edu/Departments/German_Studies/ or

http://www.brown.edu/Administration/Registrar/concentration.html.

Graduate Program

For a complete description of the program leading to the Ph. D. see http://www.brown.edu/Departments/German_Studies/.

Courses of Instruction

German

Primarily for Undergraduates

10-20. (0100-0200) Beginning German
A one-year course in the language and cultures of German-speaking countries. No credit is given for first semester alone. 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. Enrollment limited. Written permission required. J. Sokolosky and STAFF.

11. (0110) Intensive Beginning German
Students who wish to complete the GM 10–20 sequence in one semester may do so by enrolling in GM 11 for two semester course credits. There are six hours per week in small drill sections conducted by fluent undergraduate teaching apprentices. Another three hours of class will be conducted by the faculty instructor. Enrollment limited. Written permission required. Double credit. C. J. POORE.

12. (0120) German for Reading
Intensive introduction to German grammar and syntax for students without prior knowledge of German. Primarily for graduate students but also open to undergraduates. The student who successfully completes this course will have the necessary foundation for reading German texts.

30. (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. Prerequisite: GM 20 or placement. J. Sokolosky.
40. (0400) Intermediate German II
An intermediate German course that stresses improvement of the four language skills: listening, writing, reading, and speaking. Some grammar review as needed. Frequent written assignments. Topics include German art and literature. Students read short stories, novels and work with iPods. Four hours per week. Prerequisite: GM 30 or placement.

THE STAFF.

50. (0500) Introduction to Advanced German I

(0500B) From Zero Hour to the Wende
An exploration of postwar German culture through the study of literary and film texts. Oral and writing skills in German are furthered while deepening participants’ understanding of the prehistory of contemporary Germany. In German. Prerequisite: GM0040, or permission. T. W. KNIESCHE.

(0500C) Germans and Identity, Before and After Unification
The year 1990 unifies Germany and divides two decades in German history. The course investigates the depiction of individual and national identity in this period. We will examine literature and film in East and West Germany in the 1980s and 1990s. Oral and written skills in German are furthered while deepening participants’ understanding of Germany’s cultural and social situation. In German. Prerequisite: GM0040, or permission. R. SIMANOWSKI.

60. (0600) Introduction to Advanced German II

(0600B) Was ist Deutsch?
The stories we tell about ourselves create national identities. This course investigates some of the key stories and concepts that have created the self-understanding of many Germans. Texts by Luther, Heine, Kafka, Goethe, Schiller, T. Mann, Nietzsche, Hesse and others. Continued work on all four language skills: reading, listening, writing and speaking. Prerequisite: GM 0050 or permission. K. R. GOODMAN.

75. (0750) First Year Seminars

(0750A) Faust and the Faust Legend (Comparative Literature 71)
Variations on the Faust theme focus on the role of knowledge in modern society. How do we define what we know? How do we accommodate knowledge with belief? What are the limits of human knowledge and can they satisfy us? Texts from the Reformation to the present: Marlowe, Calderon, Goethe, Turgenev, Lunacharski, Mann, Valery, Bulgakov, Kerouac, Havel. In English. Enrollment limited. Written permission required. K. R. GOODMAN.

Tales of Seduction from German Literature
Language moves and instructs, but it can also seduce and lead astray. In this course we examine the mechanisms, strategies, and larger implications of seduction in some major texts from German literature (read in translation). We will also think about literature itself as seduction - as language deployed to reveal, obscure, titillate, and coerce simultaneously. Authors include Goethe, Kleist, and Kafka. In English. Enrollment limited. Written permission required. Z. SNG.

90. (0900) Introduction to German Studies

(0900B) Great Works from Germany
Cultural and historical analysis of some of the most significant German texts from the past two centuries. Writers: Lessing, Thomas Mann, Günter Grass, Christa Wolf. Philosophers: Kant, Marx, Nietzsche, Freud. Sections: Enlightenment and its limits,
liberation and oppression, and love and death. Students will give one presentation in class and write a final essay. In English. R. SIMANOWSKI.

For Undergraduates and Graduates

109. (1090) Advanced Written and Spoken German
“The awful German language” as a colorful introduction to the terrors of writing, speaking and performing in German at an advanced level. Prerequisites: GM 60 or permission.

110. (1100) Professional Writing and Speaking in German
“The awful German language” as pleasure of style: the development of fluency and style in written and spoken German at the most advanced level of communication, for those intending to utilize the language professionally as well as for their own sophisticated pleasure. Prerequisite: GM0109 or permission. Enrollment limited. Written permission required.

132. (1320) Classical German Literature
(1320F) Eighteenth Century German Aesthetics (Comparative Literature 181, History of Art and Architecture 132)
A survey of important aesthetic writings from the period, including some texts of Winkelmann, Lessing, Schiller, Goethe, and Hamann. Major questions to be treated include the role of imitation, the concept of form, the relationship between the beautiful and the good, and formation of aesthetic judgments. Course will conclude with selections from Kant’s Critique of Judgment. In English. Z. SNG.

134. (1340) The Modern Period
(1380G) Contemporary German Literature
Pop-literature is obsessed with brand names, young female authors depict melancholic city-singles, books report about “Generation Golf” and “Generation Ally”, Ossis say goodbye to Lenin, Lola runs through Berlin to rescue her boyfriend. How is unified Germany doing? What do Germans read and see? The course will examine both German literature and films of the last decade. In German. R. SIMANOWSKI.

The Modern Period
Covers the period around 1900, Weimar culture, Nazi culture, and exile literature in socio-historical context and including examples from film, art, and popular culture. Authors may include: Wedekind, Brecht, Kafka, T. Mann, Toller, Keun, Seghers, A. Zweig. In German. C. POORE.

144. (1440) Studies in Literary Genre
(1440L) Lyric Poetry: From Goethe to Heine
A survey of German lyric poetry during what Heine calls “die Kunstperiode.” Focus on rhetoric of the lyric: apostrophe, prosopopeia, metaphor, metonymy, and allegory. Close reading, frequent writing assignments. Reading in German, class discussion in English. S. BERNSTEIN.

(1440M) Digital Aesthetics
We discuss intermediality, multilinearity, interactivity, programming as features of digital literature and art; investigate the relationship between text, image, and performance; read classical texts on and analyze examples of digital aesthetics. Keywords: painting with words, visual writing, text-image-transfer, mapping art, digital performance, transgenic art, neo-baroque spectacle, technical/post-human
sublime. Courses in literary theory or visual art would help. In English. R. SIMANOWSKI.

(1440N) **Kunstmaerchen: the Literary Fairytale in the Nineteenth Century**

“Das Kunstmaerchen” or literary fairy-tale occupies a central place in the literature of late romanticism. Focusing on major examples from writers such as Tieck, Eichendorff, and Brentano, we will examine how the content and the representational structure of these texts contribute to 19th-century debates on categories like the “natural,” the “fantastic,” and the “moral.” In German. Z. SNG.

(1440O) **Modern German Drama**

Explores the fascinating modern German dramatic tradition from the 19th century to the present, emphasizing plays that are still a part of the stage repertory today and authors that have exerted a strong international influence. Authors may include: Büchner, Wedekind, Brecht, Toller, Dürrenmatt, Frisch, Weiss, Heiner Müller. In German. C. POORE.

(1440P) **Heroes, Failures and Other Peculiar Characters - The German Novel from Goethe to Kafka**

Readings in the tradition of the German novel, including Bildungsroman, Realism and modernist fiction. Consideration especially of failed heroes and the failure of the novel genre. Authors include Goethe, Hoelderlin, Novalis, Stifter, Fontane, Musil, and Kafka. Readings and class discussions in English. S. BERNSTEIN

145. (1450) **Seminars in German Literature**

May be repeated once for credit.

166. (1660) **Studies in German Culture**

(1660B) **Berlin: A City Strives to Reinvent Itself**

Contemporary Berlin buzzes with energy, yet this metropolis is characterized by the legacy of fascism and divided government. The city as cultural space will be interrogated in interdisciplinary ways. Topics range from Weimar culture and Nazi architecture to the Cold War and German reunification. In English with possible extra session for students who have completed GM 40 or higher. C. POORE

**Disability in German and American Culture**

From the interdisciplinary perspectives of the new humanities-based Disability Studies, we explore social and aesthetic constructions of the “extraordinary body” and interrogate the “normal.” Topics include: disability in literature and art after World War I, Nazi policies and practices, disability in film and media after World War II, in socialist realism, and in current bio-cultural debates; the new Disability Culture. In English. C. POORE.

(1660R) **Freud**

Comprehensive discussion of psychoanalysis with emphasis on Freud’s theories of culture and aesthetics: the unconscious and its manifestations, Freud’s theory of sexuality, the case histories, the second system, Freud on religion, Freud’s analysis of fascism. In English with extra session in German for students who want to read Freud in the original. T. KNIESCHE.

(1660U) **What was Socialism? From Marx to “Goodbye Lenin”**

The international socialist movement was born in Germany, and many of Germany’s most important cultural figures were attracted to its striving for social justice. But socialism seems to have come to a tragic end. Course includes theoreticians such as Marx, and Luxemburg, writers such as Heine and Brecht, and a focus on East German
culture (film, art, literature) and its aftermath since the fall of the Berlin Wall. In English. C. POORE.

(1660V) Nietzsche
This course will provide an introduction into Nietzsche’s thinking. Discussion of the major works from *The Birth of Tragedy* and *Beyond Good and Evil* to *Thus Spoke Zarathustra*. No pre-requisites. In English. T. KNIESCHE.

191. (1970) Independent Study
THE STAFF.

192. (1970) Independent Study
THE STAFF.

198. (1990) Senior Conference
199. (1990) Senior Conference

Primarily for Graduates

232. (2320) Literature of the Eighteenth Century

(2320A) 1700
Comparing language (rhetoric, style), literature (poetry, drama, novel), and other cultural phenomena (theater, dictionaries, emblem books, professionalization), we will consider shifts in cultural paradigms from the early modern to the modern period. Grimmelshausen and Gellert; Gryphius and Gottsched; Optiz and Haller. Readings in German. Discussion in German or English. K. R. GOODMAN.

246. (2460) Modern German Literature

(2460A) German Literature 1945 - 1967
Examines the literature and the literary debates in postwar Germany, East and West. Authors to be discussed include those of the *Gruppe 47* and those excluded from the group in the West; Brecht, Seghers, Becher and the new generation in the East. Emphasis on cultural politics and the role of literature in postwar German society (the work of mourning, political restauration). T. KNIESCHE.

266. (2660) Interdisciplinary Studies

(2660A) On the Sublime
Survey of major theories of the sublime from antiquity to modern times, with emphasis on German, British, and French texts from the 18th to 20th centuries. Authors to be read include Longinus, Immanuel Kant, Edmund Burke, Jean-Francois Lyotard, and Neil Hertz. Readings and discussions in English, with optional readings in the original languages provided. Open to seniors with instructor’s permission. Z. SNG.

(2660B) Nationalism
The course examines the rise of German nationalism in literature and writing in the 18th and 19th century and discusses the issue of national identity and multiculturalism. The course will also consider globalization and terrorism in the 21st century. Readings among others by Lessing, Herder, Jean Paul, Fichte, Arndt, Kleist. In German. R. SIMANOWSKI.
289. (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. No course credit. THE STAFF.

290. (2900) Theory and Methods of Foreign Language Teaching (French Studies 290, Italian Studies 290, Hispanic Studies 290)
S/NC.

291, 292. (2980) Reading and Research

299. (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. No course credit. THE STAFF.

Swedish
Primarily for Undergraduates

10-20. (0100-0200) Beginning Swedish
A two-semester course serving as an introduction to Swedish and Sweden; no credit is given for the first semester alone. Language skills learned include grammar, speaking, reading, and writing. Films and additional reading materials serve as a basis for understanding aspects of art and society in contemporary Sweden. A. WEINSTEIN.

30. (0300) Intermediate Swedish I
Continuing Swedish. A. WEINSTEIN.

40. (0400) Intermediate Swedish II
Continuing Swedish. A. WEINSTEIN.

Center for Gerontology and Health Care Research

The Center for Gerontology and Health Care Research (within the Medical School) is a nationally prominent research center that focuses on the diverse health and social service needs of elderly and other persons with chronic illness. It is the central coordinating force for interdisciplinary education and research in aging and long term care within the University. The center’s primary mission is to improve health and health care of older persons by advancing the fields of gerontology and health services research. The goal of these efforts is to enhance the quality of life of elderly and other persons with chronic illness. The research focus is both basic and applied, drawing upon the social sciences as well as clinical disciplines. Contact Richard Besdine, M.D., Director (401) 863-3211.

For additional information please visit the Center’s website: http://www.chcr.brown.edu/

Hispanic Studies

Professors Bou (Chairperson), Merrim, Ortega; Associate Professors Vaquero, Wey-Goméz; Senior Lecturers Bauer, Smith; Lecturers Schuhmacher, Sobral; Professor-at-Large Carlos Fuentes.
The Department of Hispanic Studies offers regular courses and opportunities for group and individually directed study in the language, literature, civilization and culture of Spain and Latin America. There are degree programs leading to the A.B. and Ph.D. Currently, the department does not admit students to pursue an A.M. degree independently of the Ph.D.

**Undergraduate Program**

For a complete description of the standard concentration program leading to the A.B. degree please visit [http://www.brown.edu/Administration/Registrar/concentration.html](http://www.brown.edu/Administration/Registrar/concentration.html).

**Graduate Programs**

**Master of Arts**

Work for the master’s degree may be wholly in Hispanic literature or may include one or more courses in such related fields as a second literature, linguistics, history, philosophy, or art. A candidate is expected to read, speak and write Spanish and have an adequate knowledge of the corresponding literature. In addition, the candidate must demonstrate a reading knowledge of French.

*Requirements:* Eight courses beyond the A.B. degree. A course in literary theory. A major paper (30 pages).

**Doctor of Philosophy**

Additional requirements for the doctorate, beyond those for the A.M., are outlined below:

1. Command of the Spanish language, spoken and written. Reading knowledge of German or Latin. In certain fields of specialization, a knowledge of Portuguese or another Romance language may be substituted.

2. An understanding of the development and/or the linguistic basis of the Spanish language.

3. Knowledge of Hispanic literature, consisting of wide acquaintance with the chief movements and writers and a thorough knowledge of selected major authors and works, including their historical and intellectual environment.

4. The program may include individually directed reading and research courses. Approved graduate courses in a field closely related to the major interest of the candidate may also be included. Such courses will usually be chosen from a second literature or linguistics, but studies in another related field may be approved on presentation of sufficient evidence of its relevance to the intellectual purposes of the candidate.

5. Eight semester courses beyond those offered for the A.M.


7. It is expected that every graduate student will serve at least 2 years as a teaching assistant and will have attended a course of instruction in teaching methods.

For additional information about the Department of Hispanic Studies please visit: [http://www.brown.edu/Departments/Hispanic_Studies/](http://www.brown.edu/Departments/Hispanic_Studies/).
Courses of Instruction

Catalan

Primarily for Undergraduates

10. (0100) Introduction to Catalan
This course introduces students to Catalan culture and boosts their oral and writing skills through a wide range of resources: Internet, television, radio, cinema, and music.

20. (0200) Catalan Language and Culture
A continuation of CA 10. This course introduces students to Catalan culture and boosts their oral and writing skills through a wide range of resources: Internet, television, radio, cinema, and music. Prerequisite: CA 10, basic knowledge of Catalan, or permission from the instructor.

30. (0300) Reading in Catalan
This course emphasizes the reading and comprehension of texts written in Catalan. It will help students develop a more sophisticated level of understanding and expression, with special attention to vocabulary enrichment. All skills (reading, writing, listening, and speaking), as well as three basic fields (grammar, literature, and culture) will be emphasized and strengthened during the course.

Spanish

Primarily for Undergraduates

10. (0100) Basic Spanish
Fast-paced course for beginners who have not previously taken any Spanish. Course stresses acquisition of skill in speaking and listening comprehension; reading and cultural awareness; writing included to a lesser degree. Enrollment limited. Written permission required.

20. (0200) Basic Spanish
A continuation of SP 10. Also a point of entry to our program for students who have taken some Spanish elsewhere (less than a rough equivalent of one year at the university level.) Course includes increased work on written expression. Prerequisite: SP 10 or placement. Enrollment limited. Written permission required.

30. (0300) Intermediate Spanish I
Designed to accommodate students who have had contact with Spanish elsewhere roughly equivalent to one year of study at the university level but are not yet ready for SP 40. Course materials and activities expand vocabulary, stimulate discussion, and broaden cultural understanding. Prerequisite: SP 20 or placement. Enrollment limited. Written permission required.

40. (0400) Intermediate Spanish II
Aims to deepen understanding of the Hispanic world and to refine oral communication and written expression, with an increased focus on accuracy and sophistication. Prerequisite: SP 30, or placement. Enrollment limited. Written permission required.

50. (0500) Advanced Spanish Conversation/Hispanic Cultures and Civilization
Develops speaking and listening skills through discussion of topics in Hispanic cultures. Materials are drawn from history, politics, and high and popular arts. Students practice conversation through oral presentations and daily discussion. Some written work also
required. Prerequisite: SP 40 or placement. Enrollment limited. Written permission required.

51. (0710) Tradition and Innovation: Nineteenth- and Twentieth-Century Experience
A survey of the forces of tradition and innovation in Spanish literary texts, from the romantic period up to the varied literary experimentation of the 20th century. An ancillary aim is to develop students’ written and oral expression in Spanish. For the place of this course in the Hispanic studies concentration, see Appendix A. Prerequisite: SP 50 or placement.

60. (0600) Advanced Composition
An appropriate course for students with a strong background in speaking Spanish who wish to improve their writing skills. Writers’ workshop format emphasizes both peer and instructor feedback as well as multiple revisions of written assignments. Readings serve as a basis for discussion and stylistic analysis. Grammar review as needed. Prerequisite: SP 50 or extensive experience (family, academic, travel, residence) with Spanish and/or placement. Enrollment limited. Written permission required.

62. Muslims, Jews, and Christians in Medieval Spain
(Medieval Studies 62, History of Art and Architecture 47, Portuguese and Brazilian Studies 96, University Courses 62)
Interested students should register for Medieval Studies 62.

73. (0730) Early and Contemporary Writers of Spanish America
An introduction to the major works and literary movements of Spanish American Literature from the Discovery to the present. This course also aims to develop students’ written and oral expression in Spanish. Preparatory course for 100-level courses for students who achieve the highest placement in Spanish. Prerequisite: SP 60 or placement. N. WEY-GOMEZ, J. ORTEGA.

74. (0740) Intensive Survey of Spanish Literature
An introduction to the major authors and literary movements of Spanish literature from the Middle Ages to contemporary times. Focuses on building critical vocabulary. Also aims to develop students’ written and oral expression in Spanish. Preparatory course for 100-level courses for students who achieve the highest placement in Spanish. Prerequisite: SP 50 or (preferably) SP 60 or placement. M. VAQUERO and STAFF.

75. (0750) Topics in Hispanic Culture and Civilization
Addresses the interdisciplinary study of Hispanic cultures as manifested in history, literature, and the arts, as well as in the everyday discourses of a culture (film, television, journalism). An ancillary aim is to develop students’ written and oral expression in Spanish. Prerequisites: SP 60 or placement.

(0750A) Cultures of Violence
Studies wide-range treatments of violence in Hispanic literature, film, and TV. We will address the protocols of honor in Golden Age Spain; state-sanctioned bloodshed in Latin America; endemic violence in over-populated cities; and ritual lynching in confessional TV shows. Works by Cervantes, Catalina de Erauso, Garcia Marquez, and Fernando Vallejo. Films: Historia oficial, Amores perros. V: Sho de Cristina. Written permission required. N. WEY-GOMEZ.

(0750J) Hispanic Population US
Written permission required. B. W. BAUER.
(0750I) Spanish Cinema
En este curso exploraremos la identidad social, nacional e individual de España a través del lenguaje especial de su cinematografía. Se estudiarán filmes representativos de las diferentes épocas y movimientos de la historia del cine español. Written permission required. THE STAFF.

(0750E) Topics in Hispanic Culture and Civilization
Written permission required. THE STAFF.

For Undergraduates and Graduates
102. (1020) Spanish Literature in English Translation†
124. (1240) Studies in Spanish Literature of the Golden Age
129. (1290) Literature of the Spanish Twentieth Century
133. (1330) Studies in Spanish American Literature
137. (1370) Studies in Contemporary Spanish American Literature
   (1370A) Gabriel García Márquez
   En este curso discutiremos las novelas de Gabriel García Márquez desde la perspectiva de la historia cultural, la memoria, la política, y el realismo mágico. J. ORTEGA
150. (1500) Special Topics in Hispanic Literature
170. (1700) Stylistics and Linguistics
   For the students’ improvements of linguistics skills and the development of literary creativity in Spanish through the discussion of texts and the production of writing models. Enrollment limited. Written permission required. THE STAFF.
190. (1900) Capstone Course
   Required of all concentrators in Hispanic studies in their junior or senior year, after they have completed 100-level courses in the department; other students who have done the same may take the course with written permission. A proseminar covering research tools and methods and cutting-edge topics of broad relevance to Latin American and Peninsular literatures and cultures. Several faculty members contribute to the seminar; each student develops and presents a final project on an intercultural topic.
198. (1990) Senior Conference
   Primarily for Graduates
201. (2010) Spanish Philology
   Study of the philological and literary development of the language from the Middle Ages to the Renaissance. Includes a brief introduction to the phonetics and phonology of the Spanish language (with references to the dialects and to Portuguese and Catalan). Written permission required for undergraduates. M. VAQUERO.
203. (2030) Studies in Spanish Literature of the Middle Ages
215. (2150) Studies in Spanish Literature of the Golden Age†
216. (2160) Seminar in Spanish Literature of the Golden Age
225. (2250) Seminar in Spanish Literature of the Eighteenth and Nineteenth Century
235. (2350) Studies in Spanish American Literature
252. (2520) Seminar: Spanish American Literature
262. (2620) Special Topics in Hispanic Literature
289. (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. No course credit.

290. (2900) Theory and Methods of Foreign Language Teaching (French Studies 290, German 290, Italian Studies 290)
Theory and practice of Spanish language learning and teaching (theory of language learning and acquisition, approaches, methods and techniques, curriculum design, materials development, testing and evaluation). In Spanish. Written permission required for undergraduates. S/NC. S. SOBRAL AND STAFF.

292. (2991) Thesis Preparation
293. (2980) Research in Spanish Literature
299. (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. No course credit.

History


The Department of History offers a wide variety of courses concerned with changes in human experience through time. These courses range from the histories of Classical Greek and Roman civilizations to the histories of Africa, the Americas, East Asia, the Middle East, and South Asia. The department has no single approach or pedagogic method. Some courses deal with the history of a particular country (e.g. France or Japan); others concentrate on a certain period of time (e.g., the Middle Ages or the Renaissance); and still others deal with a special topic (e.g., twentieth-century science or multiracial societies in the Americas). All use methods of instruction appropriate to the particular subject and to students’ level of knowledge. Introductory and intermediate courses combine lectures and discussions, while a sizeable number of small seminars give students an opportunity to delve deeply into an area of special interest. By taking advantage of the variety of offerings, students will be able to develop broad perspectives on both the past and the present.

Undergraduate Program
For a complete description of the standard concentration program leading to the A.B. degree, please visit: http://www.brown.edu/Administration/Registrar/concentration.html.
Graduate Programs

For a complete description of the requirements for the Master of Arts and Doctor of Philosophy degrees in History, please see the History Department website at: http://www.brown.edu/Departments/History/

Courses of Instruction

Primarily for Undergraduates

1. (0010) Europe from Rome to the Eighteenth Century
This course explores the vast changes in the organization of physical, social, political, and mental space that occurred in European societies during this period. Themes include the complex divisions and interactions of various groups within these societies according to gender, class, and ethnicity, and the relations between European societies and others (including the Islamic world and the Americas). P T. E. NUMMEDAL.

2. (0020) Europe since the French Revolution
A survey of European history from the middle 18th century until recent times. The themes include the transformation of a traditional society, industrialism, revolutionary movements, ideological changes, imperialism, fascism, communism, and the present state of European civilization. M J. L. RICHARDS.

41. (0410) Introduction to East Asian Civilization: China (East Asian Studies 41)
A comprehensive survey of Chinese history, from imperial times to the present. Seeks to establish the impact of China’s historical legacy upon contemporary society, politics, and culture. E R. DAVIS.

42. (0420) Introduction to East Asian Civilization: Japan (East Asian Studies 42)
A broad-based survey that begins with the formation of a distinctive lifestyle in prehistoric times and continues through Japan’s emergence to a modern nation today. Particular emphasis is placed on understanding the fundamental cultural values and aspirations of Japanese who lived in various historical periods and analyzing their attempts to create particular political, social, and economic systems that would give life to those dreams and ambitions. E K. SMITH.

51. (0510) American History to 1877
A survey of social, cultural, and political trends from colonial times to Reconstruction focusing primarily on the lives of ordinary Americans. E M. VORENBERG.

52. (0520) American History since 1877
A survey of social, cultural, and political trends from 1877 to the present focusing primarily on the lives of ordinary Americans. M H. P. CHUDACOFF.

61. American Jewish History (Judaic Studies 61)
By the mid-20th century, the U.S.’s Jewish population was one of the world’s largest and most important. In 1654, however, when 23 Jews landed in New Amsterdam, their position was far from assured. The history of American Jewish settlement is considered by exploring the interaction between the political, social, and cultural environment and successive waves of Jewish migrants. M M. MANDEL.

92. Selected Topics in the Writing and Interpretation of History
Introduction to historical methodology and the techniques of writing and research, with a focus on preparing to write a senior thesis in history. Required of and limited to juniors
entering the honors program. See History Honors in the section on Undergraduate Concentration Programs. K. S. Sacks.


96. Cross-Disciplinary Historical Studies (Lecture Courses)

97. (0970) Introductory History Seminar
Designed for first-year students who wish to acquire historical skills and experience working together as an intellectual community. May serve as a gateway for more advanced courses. Enrollment limited. Written permission required.

98. Cross-Disciplinary Historical Studies (Seminars)

For Undergraduates and Graduates

100. (1000) Ancient Greek History

101. (1010) Roman History

102. (1020) Medieval Spain: Land of Three Cultures
While in most of medieval Europe Christians predominated numerically and culturally, in medieval Spain they were often overshadowed by people of the other two monotheistic faiths, Islam and Judaism. The course explores the diverse world of medieval Spain from the Visigothic prelude to the momentous events of 1492. Particular focus on the social, cultural, and political modes of interaction among Christians, Jews and Muslims. P. A. G. Remensnyder.

103. (1030) Europe in the Early Middle Ages: From Rome to the Year 1000†
Once thought of as the “Dark Ages,” this period of western European history should instead be seen as a fascinating time in which late Roman culture fused with that of the Germanic tribes, a mixture tempered by a new religion, Christianity. Issues of particular concern include the symbolic construction of political authority, the role of religion, the nature of social loyalties, and gender roles. P. A. G. Remensnyder.

104. (1040) Europe in the High Middle Ages (ca. 1000-ca. 1450)†
Popes named Joan, Gothic cathedrals, and crusaders—all these were produced by the rich world of the western European Middle Ages. The cultural, religious, and social history of this period are explored with special attention to the social construction of power, gender roles, and relations between Christians and non-Christians. P. A. G. Remensnyder.

105. (1050) Renaissance Italy (Italian Studies 136)
Italian society and culture from the fourteenth through the sixteenth centuries. Explores the traditional understanding of the Renaissance as a period of remarkable artistic and intellectual achievements in Italy as well as the broader social, political and cultural context for these innovations. Topics include art, political theory, humanist scholarship, family life, court society, religion, urban and rural identities and sexuality. P. T. E. Nummedal.

107. (1070) Early Modern Europe from Religious Reform through the Age of Absolutism
Introduction to major religious, social, and political events that shook and revolutionized Europe in the early modern period, including the Protestant and Catholic Reforms, the advance of print and literacy, the rise of the absolutist state, religions and civil wars, the beginning of industrialization, colonialism and the creation of empires, and new configurations of the family. P. M. Sluhoovsky.
112. *Between Allah and Jesus: The Mediterranean Jewish World(s), 1490–1940s* (Judaic Studies 109, Portuguese and Brazilian Studies 160)
This course offers a critical introduction to the world(s) of Mediterranean Jewry from the late medieval period to the Second World War. Its aim is to study the Sephardic Jewish communities as they navigate the waters of the Mediterranean from the Iberian ('West') to the (Ottoman and Balkan) 'East,' and from the pre-modern era to the 'chilling wind' of modernity. J. Flores.

113. (1130) *The Renaissance in Northern Europe*
Explores the late Renaissance as it developed primarily in sixteenth-century Northern Europe, particularly the relationship between artistic and intellectual developments and their social, political, and religious context. Topics include: the commodification of art and knowledge, court culture and patronage, early museums and curiosity cabinets, the gendering of intellectual authority, humanism and print culture. P. T. E. Nummedal.

114. (1140) *Nature, Knowledge, and Power in Early Modern Europe* (Science and Society 114)
This course connects natural knowledge to larger developments in early modern Europe such as noble court culture, artistic innovation, commercial exchange, exploration and colonization. Topics include: alchemy, early museums, the visual culture of science, and the impact of New World nature on Old World knowledge systems. P. T. E. Nummedal.

117. (1170) *Topics in Jewish History*

118. (1180) *The Rise of the Scientific Worldview* (Science and Society 118)
Examination of the worldview that emerged in Europe during the scientific revolution, from 1543 when Copernicus and Vesalius published their works until Lavoisier’s chemical revolution in the late 18th century. Considers both the chronology of scientific developments, and their broader social and intellectual contexts. Accessible to science, humanities, and social science concentrators. P. J. L. Richards.

119. (1190) *Nineteenth-Century Roots of Modern Science*
A consideration of developments in 19th-century physics, chemistry, biology, and mathematics in their relation to the natural and social worlds. Explores the ways scientific theories affected and were affected by views of the nature and potential of scientific knowledge. Also addresses the development of institutional structures and their effects on theories generated. No formal prerequisites—open to science and humanities students. M. J. L. Richards.

121. (1210) *European Intellectual History: Discovering the Modern* (Comparative Literature 181, Modern Culture and Media 120)
A lecture course, primarily for juniors and seniors, that focuses on salient philosophic, artistic, and ideological currents of 19th-century Europe. Beginning with the crisis of political and cultural legitimacy posed by the French Revolution, it concludes with the consolidation of bourgeois culture in the 1860s and 1870s and the two great scientific systematizers of these decades: Darwin and Marx. M. M. Gluck.

122. (1220) *European Intellectual and Cultural History: Exploring the Modern, 1880–1914* (Comparative Literature 181, Modern Culture and Media 120)
A sequel to HI 121 focusing on radical intellectual and cultural currents that challenged and destabilized the assumptions of Victorian high culture during the fin de siecle. Through a careful reading of primary texts by Hobhouse, Nietzsche, Weber, Bergson, and Freud, explores issues such as the rise of consumer mass culture, neoliberal and neofascist politics, philosophic irrationalism, psychoanalysis, and the woman question. M. M. Gluck.
123. (1230) *European Intellectual History: Exploding the Modern*
(Modern Culture and Media 120)
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. *M. M. GLUCK.*

126. (1260) *Modern European Women's History*
The history of European women from the Enlightenment to the present, with special attention to culture and sexuality. *M. C. J. DEAN.*

128. (1280) *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. T. J. HARRIS.*

129. (1290) *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. T. J. HARRIS.*

130. (1300) *Victorian Britain: Liberalism, Morality and Empire*
How and why did 19th-century Britain become the most powerful nation in the world? We will investigate Britain’s remarkable political stability, examine its industrial expansion and the growth of cities, explore its trademark philosophy–liberalism–and consider challenges to the parliamentary system, especially by workers; and chart the expansion of empire and its consequences for the metropole. *M. D. A. COHEN.*

131. (1310) *Empire to Cool Britannia: Twentieth-Century Britain*
One hundred years ago the greatest power in the world, Great Britain today is merely a junior partner in the new Europe. Yet is the history of Britain in the twentieth century chiefly a story of decline? Themes include the effects of the two world wars, the political incorporation of labor, decolonization and immigration, state expansion, and mass culture. *M. D. A. COHEN.*

135. (1350) *Modern Genocide and Other Crimes against Humanity*
The emergence, evolution, varieties, and underlying causes of and confrontations with genocide and other crimes against humanity in the 20th century: genocide in colonial empires, Ottoman Turkey, Nazi Germany, Cambodia, and Rwanda; killing of the handicapped, wartime massacres, mass crimes of Communism, and “ethnic cleansing”; the role of racism in and moral arguments about crimes against humanity; and policies of retribution and restitution. *M. O. BARTOV.*

137. (1370) *Germany, 1914 to the Present* (German 166)
Explores the extraordinarily violent and no less remarkably creative course of German history in the 20th century. Emphasizes the impact of World War I; politics and culture in the Weimar Republic; conformity, resistance, and complicity in the Third Reich; Hitler’s war of destruction and genocide; the divergent paths of East and West Germanies; reunification and Germany’s future prospects. *M. O. BARTOV.*

141. (1410) *Modern Russia to the Revolution*
*M. E. POLLOCK.*
142. (1420) Twentieth-Century Russia
Successive phases of the Soviet experience from the Russian Revolution of 1917 through
the Gorbachev era. Topics include the Russian Revolution and the Civil War,
Collectivization, the Purges, the Second World War, the Cold War, and the dissolution
of the Soviet system. M E. POLLOCK.

143. Modern Greek and Balkan History

144. (1440) Islamic History, 1400–1800
M E. D. AKARLI.

145. (1450) History of the Modern Middle East, 1800–1918
Transformation of Middle Eastern societies and polities from 1800 to 1918 under the
impact of growing Western economic, political, and cultural domination. The rise of new
patterns of economic organization, governance, sociopolitical alliances, and cultural tastes
in Ottoman Turkey, Arab lands, and Iran. M E. D. AKARLI.

146. (1460) History of the Modern Middle East since 1918
A comparative survey of independence movements and the rise of modern states and
societies in the Middle East since World War I. Problems of political organization, rapid
socioeconomic development, and identity formation; causes and consequences of interstate
conflicts; the impact of external powers’ involvement in the region (with an emphasis on
American involvement and interests). M E. D. AKARLI.

147. (1470) Southern African History (Africana Studies 147)
Examines major themes of the history of southern Africa from 1500 until 1994, including
recent historiographical disputes. Emphasizes the creation of racial groups and interactions
between them. Explores relations between Khoisan foragers, Bantu-speaking agro-
pastoralists, and European colonists, and the ways these groups became distinct modern
races. Also considers how the mineral revolution promoted capitalist development, white
domination, and segregation. Ends with the transition to majority rule. E N. J. JACOBS.

151. (1510) History of Modern China I
M M. SWISLOCKI.

152. (1520) History of Modern China II
M M. SWISLOCKI.

153. (1530) Modern Korea: Contending with Modernity
This course examines the extraordinarily rapid revolution of Korea from isolated, agrarian,
and bureaucratic society into a culturally modern, industrialized, and politically stable
nation that is an important actor on the world stage. A second purpose is to demonstrate
how a non-Western society develops its own inspiration for human relations, social
structure, political and cultural values, and economic survival. Written permission required.
M J. L. MCCLAIN.

154. (1540) Samurai and Merchants, Prostitutes and Priests: Japanese Urban Culture in
the Early Modern Period (East Asian Studies 154, Urban Studies 155)
Examines the cultural traditions of the urban samurai, the wealthy merchant, and the
plebian artisan that emerged in the great metropolises of Edo, Osaka, and Kyoto during the
eye early modern period. Focuses on the efforts of the government to mold certain kinds of
cultural development for its own purposes and the efforts of various social groups to
redirect those efforts to suit their desires and self-interest. P J. L. McCLAIN.
The Social History of Modern Japan (East Asian Studies 156)
Since Japan’s modern transformation began some 150 years ago, its citizens have repeatedly confronted questions about the nature of democracy, capitalism, and modernity itself, and in so doing have shaped the institutions of society into new and powerful patterns. This course examines those transformations through the lenses of popular culture and social history. M. K. Smith.

Japan’s Pacific War: 1937–1945 (East Asian Studies 157)
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. M. K. Smith.

Making of Modern South Asia
This course will examine the making of modern South Asia, from the decline of Mughal rule and the emergence of Company Raj, up to present. The course will particularly focus on colonialism and nationalism, the relationship between the colonial state and post-colonial nation-states of South Asia, to understand concepts of empire, resistance and ‘postcoloniality.’ M. V. F. Zamindar.

Recovering Early South Asia
This course will examine the recovery of early South Asia through history, archaeology and art, from the discovery of the Indus valley civilization to the establishment of Mughal rule, paying particular attention to colonial and post-colonial constructions and contestations over ‘antiquity’ and the making of Hindu, Buddhist and Muslim civilizations. E. V. F. Zamindar.

Colonial Latin America
A survey of Latin American history from pre-Columbian times to independence. Focuses on the creation of new societies in the Americas, shaped by the interaction of Europeans, Indians, and Africans. R. D. Cope.

Modern Latin America I
This course offers an introduction to the history of Latin America, beginning with the late colonial period and running through the close of the twentieth century. Emphasis is placed on political, social, and cultural history; less attention is paid to diplomatic and economic history. M. J. N. Green.

Clash of Empires in Latin America
Examines Latin America as the scene of international rivalry from the 16th to the 19th century. Topics include comparative colonization, the transatlantic slave trade, privateering and piracy in the Caribbean, and the creation of an “Atlantic world.” P. R. D. Cope.

Modern Latin America II
M. J. Green.

The Mexican Revolution
An in-depth study of the Mexican Revolution. The focus is on the years of revolutionary violence (1910–1920), but considerable attention is also paid to the roots of the Revolution and to its socioeconomic and political impact in the period 1920–1940. M. R. D. Cope.

History of Brazil (Portuguese and Brazilian Studies 167)
In five hundred years, Brazil has undergone massive transformations: once a minor outpost of the Portuguese empire, it is now the fifth largest and most-populous country in the world,
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with its tenth-largest economy and third-largest democratic polity. Throughout, Brazil has exhibited great cultural vitality alongside dramatic social inequality. HI 167 explores these developments, beginning with Brazil's sixteenth-century origins and ending with its twenty-first century present. E J. GREEN.

170. (1700) History of the American Colonies
The origins and development of American society in the colonial period. P G. S. WOOD.

171. (1710) Era of the American Revolution
The origins, nature, and consequences of the American Revolution from the middle of the 18th century to the making of the federal Constitution in 1787–88. P G. S. WOOD.

172. (1720) The Early Republic
The emergence of democratic America between 1789 and the election of Jackson. E G. S. WOOD.

173. (1730) Antebellum America and the Road to Civil War
S. ROCKMAN.

174. (1740) Civil War and Reconstruction
Examines the origins of the Civil War, the war itself, and the period of Reconstruction. Analyzes the transformation of society, politics, and culture during this period, with special emphasis on slavery and emancipation, the revolutionary nature of the war, and the meanings and legacies of reunion. Not a course on military history. M M. VORENBERG.

175. (1750) Politics, Culture, and Society in the U.S. Since 1945
History of the United States between the end of World War II and turn of the recent century. Major themes and topics include race and civil rights, women’s history and feminism, the Cold War, Vietnam, and U.S. foreign policy, suburbanization and the urban crisis, the rise and fall of the welfare state, and a history of consumption and popular culture. M R. O. SELF.

176. (1760) Political Movements in Twentieth-Century America
Political movements in the United States in the twentieth century. History and theory. Highlights of the course include: populism, progressivism, segregationism, first wave feminism, labor movement, civil rights, new left, second wave feminism, new right. The course focuses on the origins, nature, ideologies, and outcomes of major political movements on both left and right in the twentieth century United States. M S. E. ROCKMAN.

177. (1770) American Cultural History: 1789–1865
The cultural contests and intellectual debates over sin, salvation, and celebrity in the decades between the American Revolution and the Civil War. The course connects crime and punishment, slavery and abolition, and commercial entertainment to questions of national identity. Special attention to popular culture, gender, and the genre of microhistory. M S. E. ROCKMAN.

178. (1780) Modernizing America
The arrival of the modern age as recorded in novels, popular history, memoirs, and social and political commentary. We will explore American culture from the “Gilded Age” through the twentieth century. M E. J. GORN.

179. (1790) North American Environmental History (Environmental Studies 179)
Analyzes the relationship between ecological and social change in North America from pre-Columbian times to the 20th century. Topics include Indian uses of the environment; the reshaping of ecosystems under European colonization; the transfer of plants, animals, and diseases from Africa and Europe to the Americas; urbanization; and the rise of the
environmental movement. Prerequisites: HI 51 and 52 recommended but not required. E K. JACOBY.

182. (1820) American Urban History to 1870 (Urban Studies 182)
Both a survey covering urbanization in America from colonial times to the present, and a specialized focus exploring American history from an urban frame of reference. Examines the premodern, “walking” city from 1600–1870. Includes such topics as cities in the Revolution and Civil War, the development of urban services, westward expansion, and social structure. E H. P. CHUDACOFF.

183. (1830) American Urban History since 1870 (Urban Studies 183)
A survey with a specialized focus exploring American history from an urban frame of reference. Topics include the social consequences of the modern city, politics, reform, and federal-city relations. M H. P. CHUDACOFF.

184. (1840) Capitalism, Slavery and the Economy of Early America
E S. ROCKMAN.

185. (1850) American Legal and Constitutional History
History of American law and constitutions from European settlement to the end of the 20th century. Not a comprehensive survey but a study of specific issues or episodes connecting law and history, including witchcraft trials, slavery, contests over Native American lands, delineations of race and gender, regulation of morals and the economy, and the construction of privacy. E M. VORENBERG.

189. (1890) History of American Foreign Relations I
This course surveys the development of American foreign relations from initial encounters between Native Americans and newly arrived Europeans to the extension of EuroAmerican power beyond the continental United States. By being attentive to a wider global context, we will attempt to understand the trajectory of “America” from a colonial hinterland to dominant world power. M N. SHIBUSAWA.

190. (1900) History of American Foreign Relations II
This survey of twentieth-century US foreign relations will focus on the interplay between the rise of the United States as a superpower and American culture and society. Topics include: ideology and U.S. foreign policy, imperialism and American political culture, U.S. social movements and international affairs, and the relationship between U.S. power abroad and domestic race, gender and class arrangements. E N. SHIBUSAWA.

192. (1920) Chicago and America (Urban Studies 192)
This course explores the history of Chicago, but also uses that history as a way to think about issues in American history. Sources include novels, memoirs, popular histories, film and music. M E. J. GORN.

194. (1940) Making the Nation: Race, Class, Gender, and the Concept of Citizenship in U.S. History (Modern Culture and Media 170)
Explores meanings and history of citizenship in the U.S. from the drafting of the national constitution in 1787 to the present. Topics include legal, political, and social content of belonging to the nation. What does citizenship mean? What is the national body? Who has been defined in and out of the nation and why? Focus on race, class, gender, and nationality as analytical frameworks. E R. O. SELF.

195. (1950) Portuguese Navigations and Encounters with Civilizations

196. Cross-Disciplinary Historical Studies (Lecture Courses)
197. (1970) *Undergraduate Seminars on Interpretations of History*
Qualified undergraduates with the consent of individual instructors, may register for 200-level graduate seminars. Enrollment limited. Written permission required.

198. *Cross-Disciplinary Historical Studies (Seminars)*
Enrollment limited. Written permission required.

199. (1990) *Undergraduate Reading Courses*
Guided reading on selected topics.

**Primarily for Graduates**

289. (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. No course credit. THE STAFF.

291. (2910) *Reading and Research*
Section numbers vary by instructor. Please see the registration staff for the correct section number to use when registering for this course.

292. (2910) *Reading and Research*
Section numbers vary by instructor. Please see the registration staff for the correct section number to use when registering for this course.

293. (2930) *Colloquium*
Themes and topics in history and historiography. Required of all first-year graduate students. THE STAFF.

294. (2940) *Graduate Workshop: Practice of History*
Required of all incoming Ph.D. students. S/NC. THE STAFF.

295. (2950) *Professionalization Seminar*
Required of all second year Ph.D. students. S/NC. THE STAFF.

296. (2960) *Prospectus Development Seminar*
Required of all second year Ph.D. students. THE STAFF.

297. (2970) *Graduate Reading Seminars on Interpretations of History*

298. (2980) *Graduate Research Seminars on Interpretations of History*

299. (2990) *Thesis Preparation*

**History of Art and Architecture**

Professors Bickford, Bonde, Muller, Neumann, Vanel, Winkes, Zerner; Associate Professors Kriz, Lincoln; Professor Emeritus Schulz.

**Undergraduate Program**
The concentration introduces students to the history of art and architecture by a distribution requirement, under which concentrators study several areas in the discipline to apprehend the varieties of forms, themes, and theories that can constitute a visual culture, and the varieties of relationships between artistic, political, intellectual, and social developments that can structure that culture. More advanced work has two aims. Study in seminar courses
is designed to give concentrators an awareness of the critical strategies available for interpretation of historical and cultural phenomena, and to foster research skills. Study of a set of coordinated courses in history of art and architecture is designed to give the concentrator knowledge in depth of the major achievements and major issues in one of the component areas of the discipline.

For a complete description of the standard concentration programs leading to the bachelor’s degree in History of Art and Architecture or Architectural Studies, please visit: http://www.brown.edu/Administration/Registrar/concentration.html.

**Graduate Program**

The department provides training in the history of art and architecture of Europe, of the ancient, medieval, early modern (ca. 1400–1800) and modern periods, as well as Latin American and East Asian art and architecture. Applicants to the graduate program must possess the bachelor of arts degree or its equivalent and submit Graduate Record Examination (Aptitude) results and a writing sample. Students admitted to the Ph.D. program must first complete the requirements for the A.M. degree.

**Master of Arts**

Minimum of 10 course credits. This includes no fewer than six departmental seminars, among them principally two 200-level seminars. In addition, all students must take HA 292 (Methods of Research and Art Historical Interpretation) and HA 293 (Practicum) during the first two years. Although graduate credit for language courses will be given (undergraduate courses need special graduate credit), those courses may not be part of the required 10-course core requirement. In individual cases and after consultation with the student’s advisor or the graduate supervisor, a departmental seminar may be replaced with a seminar outside of the department, or with HA 290 (Individual Reading). Up to four undergraduate lecture courses or seminars within and outside of the department may be taken for graduate credit, if the supervisor and the instructor of that particular course agree.

All first-year graduate students must attend the Research Roundtable Seminar (no course credit); all others are strongly encouraged to attend.

Students typically will submit one of their seminar papers to a departmental committee for approval as an A.M. equivalent/qualifying paper. The Qualifying Paper provides the faculty with one means of assessing whether or not the student can conceptualize new ideas, persuade by effective use of evidence and argument, and write fluently and clearly. The Qualifying Paper usually will be a revised seminar paper and usually is about 25–35 pages long. Two readers usually drawn from the department’s faculty must approve the paper (the main reader is often the departmental faculty member who oversaw the writing of the original paper). An A.M. thesis in art history from another institution can be used as a Qualifying Paper, but it must be vetted by two members of the department’s faculty, and revised if it does not meet the necessary standards.

Students holding the master of arts degree in art history from other institutions typically are entitled to one year’s credit towards the residency requirement of the Ph.D. program. During the first year of residence, they must fulfill all language requirements, complete the sequence HA 292, 293, and attend the Research Roundtable. Students may not receive a second A.M. degree in art history from Brown.

**Grade Options:** Students must take all courses ABC/No Credit unless it is impossible to do so.
Distribution Requirements: Before they apply to be admitted to Ph.D. candidacy, students must complete course work in at least three periods or areas of the history of art. These areas are: ancient, medieval, early modern (ca. 1400–1800), modern, East Asian, or other areas of non-Western art. Students must take one course in an area distant in time or place from the area in which they intend to specialize. The practicum and methods courses may be counted towards the distribution requirements. Students entering with the A.M. degree may request that courses taken at that institution may be counted towards distribution requirement.

Language Requirements: All students are required to have a reading knowledge of at least two foreign languages in order to receive their A.M. degree/equivalent. For ancient, European, and American art, the department’s language requirement typically is a reading knowledge of German and French. For Asian art, the minimum requirement is one European language and Chinese. Exceptions from the above rule may be granted by the faculty in special cases, where, for example, a reading knowledge of Spanish and Dutch would best complement a student’s research interest.

Evaluation: At the end of each semester, instructors will provide a written evaluation to each graduate student. These evaluations will take the participation in each seminar, performance as a proctor or teaching assistant, and/or progress towards the dissertation into account. Students are not permitted to hold more than one incomplete at any given time.

When the work on the dissertation is under way, a brief written progress report by the student is required each semester. This report shall be sent to all advisors. Ph.D. students are expected to present chapters/arguments of their dissertation at the department’s roundtable discussions.

Financial Aid: Aid is available to incoming students on a competitive basis in the form of University Fellowships, Dean’s Fellowships, fellowships, and tuition scholarships. From the second to the fourth year, aid is usually available through teaching assistantships and proctorships. The department also provides support for travel for research purposes and travel to deliver papers at professional conferences. Candidates for the Ph.D. also are encouraged to apply for fellowships from outside granting institutions such as the National Gallery of Art and the Kress Foundation.

Suggested schedule of study for students entering the program without an MA in art history from another program:

Year 1:
- HA 292, Methods, or HA 293, Practicum, to be taken during this year
- Semester 1: courses, language prep; attendance at Research Roundtables required
- Semester 2: courses, language prep; attendance at Research Roundtables required

Summer: language preparation

Year 2:
- Remaining required departmental introductory course—Methods or Practicum—taken during this year
- Semester 3: courses, preparation of Qualifying Paper
- Semester 4: courses Qualifying Paper completed and approved (by two faculty members) and language requirement completed by May 1st. At this time (or early in semester 5) the student should petition the department in writing to be considered for admission into the Ph.D. program. The faculty will meet to assess the student’s coursework, Qualifying Paper, language requirements, and general progress and either
recommend entrance or termination. Meet with General Examination Committee to set questions for the examination.

Summer: Preparation for general examination. Selection of faculty to serve as members of the General Examination Committee and the Dissertation Committee. The latter committee may include a faculty member outside Brown.

Year 3:
- Semester 5: General Examination to be completed by the end of the semester.

Year 4: Research

Year 5: Research and writing

Year 6: Completion of writing of Dissertation

Suggested schedule of study for students entering the program with an MA in art history, at least one language completed, and coursework that will count towards the Department's course requirements:

Year 1:
- HA 292, Methods, or HA 293, Practicum, to be taken during this year
- Semester 1: courses, language prep; attendance at Research Roundtables required
- Semester 2: courses, language prep; preparation of Qualifying Paper (or submission/revision of MA thesis); attendance at Research Roundtables required

Summer: language preparation and Qualifying Paper. Selection of faculty to serve as members of the General Examination Committee and the Dissertation Committee.

Year 2:
- Remaining introductory seminar—Methods or Practicum—taken during this year
- Semester 3: Early in the semester: Qualifying Paper completed and approved and language requirement completed. After completion the student should petition the department in writing to be considered for admission into the Ph.D. program. The faculty will meet to assess the student’s coursework, Qualifying Paper, language requirements, and general progress and either recommend entrance or termination. Meet with the General Examination Committee to set the questions for the examination. Study for General Examination.
- Semester 4: General Examination to be completed by the end of the semester.

Year 3:
- Semester 5: Dissertation Prospectus completed, Colloquium Examination passed.
- Semester 6: Research

Year 4: Research and writing

Year 5: Completion of writing
Doctor of Philosophy

The doctoral program prepares students for specialized research in one of the fields regularly taught on the graduate level by the department. Continuation of graduate study towards a Ph.D. requires completion with distinction of the A.M. degree. At that point, the student must apply in writing for admission to the Ph.D. program.

The residence requirement for the Ph.D. degree is fulfilled by a minimum of three years of full-time study (or 24 tuition units, including the 10 units minimum requirement for the A.M. degree). The schedule of courses beyond the A.M. degree is up to the discretion of the student and his or her advisor. Students who are in the process of preparing their colloquium, studying towards the orals, or doing research for their thesis typically sign up for individual reading/research units such as HA 297, 298, 299 for single, double or triple credit.

General Examination:

- The General Examination is designed to help students develop competency in their chosen field, broadly defined, as well as prepare them for focused research on their dissertation. There are three members of the examination committee: the student’s primary advisor, and another member drawn from the Brown faculty, and the Director of Graduate Studies. The committee will draw up three questions to be answered in writing. The student has two days to answer the questions, and may do so using appropriate research resources, although it is not expected that these questions will require further research beyond that done for General Examination preparation. The examination is intended to gauge the student’s depth of understanding of the problems, history, and methodologies of the field. It is expected that the general questions will take about three hours to answer thoughtfully and the other two questions no more than two hours each. No more than seven to ten days later, the student and committee will convene to conduct an oral examination, lasting no more than an hour and a half. This examination is designed to extend the discussion of the written questions and focus on the issues raised in the student’s written responses.

- Forming the committee and the questions: The student and the advisor should meet by the end of semester four to determine who, besides the Director of Graduate Studies, will be a member of the examination committee. This person need not be a reader of the dissertation, although s/he may serve in that capacity as well. The student and primary advisor will meet together to define the field of examination. The primary advisor will prepare a field question and a question more narrowly focused in the student’s specific area of interest. The second member of the committee will prepare the other more specific question. The Director of Graduate Studies will chair the oral examination based on the written essays generated by the questions. If the Director of Graduate Studies is a member of the examination committee, s/he will appoint another member of the faculty to chair the examination.

- Both the written and oral exercises will be assessed by the three faculty members constituting the examination committee. If the student fails all or part of the written or oral exam, s/he will have one opportunity to retake it. The retake must be successfully completed by the end of the semester. Failure to pass the retake will result in termination from the graduate program. Passing the General Examination qualifies the student to move onto the next stage: preparing a Dissertation Prospectus and defending the prospectus in a Colloquium Examination. Advancement to Candidacy is achieved with the passage of the Colloquium Examination.
Dissertation Prospectus:

- The Dissertation Prospectus should set out the major question or problem to be pursued in the dissertation. Length may vary, but it will normally run to about 15 pages (double spaced), and should lay out the project in the context of the most relevant scholarship and bibliography, address why the project is important, what major sources will be used, and the critical methods to be used. The prospectus should be circulated to the members of the student’s Dissertation Committee and discussed with individual committee members well before the meeting. The Dissertation Committee consists of at least three faculty members. Usually at least two members of the HAA department are on the committee. The committee may also include a member who is outside of the HAA department. This person must hold a tenure track or equivalent position at a four year university or college; they are chosen in consultation between the student and advisor, and with the approval of the department. The Dissertation Committee may or may not have the same membership as the General Examination Committee.

Colloquium Examination:

- The purpose of the Colloquium Examination is to discuss and assess the Dissertation Prospectus. It will be chaired by the Director of Graduate Studies and attended by the student and the members of the Dissertation Committee (see preceding section for the constitution of this committee). If the Director of Graduate Studies is a member of the Dissertation Committee, s/he will appoint another member of the faculty to chair the examination. The Colloquium Examination should last no more than one and a half hours. If the student fails this examination s/he will have one opportunity to retake it. The retake must be successfully completed by the end of the next semester. Failure to pass the retake will result in termination from the graduate program. Advancement to Candidacy is achieved with the passage of the Colloquium Examination.

The dissertation should be a substantial contribution to the scholarship in the history of art, embodying original research and suitable for publication as submitted or in revised form.

The Ph.D. candidate is expected to present his or her work at least once after the passing of the colloquium at a departmental roundtable discussion.

For additional information regarding the Department of History of Art and Architecture, please visit: [http://www.brown.edu/Departments/Art_Architecture/](http://www.brown.edu/Departments/Art_Architecture/)

Courses of Instruction

Primarily for Undergraduates

1. (0010) *Introduction to the History of Art and Architecture*

   Introduction to the history of western art and material culture from the beginning to the present. In addition to examining visual strategies of representation, the course explores the varied ways in which art reflects and shapes social, religious, and political concerns. Weekly one-hour conference required. THE STAFF. A
2. (0020) *Introduction to the History of Architecture and Urbanism* (Urban Studies 2)
Western architecture and urbanism from classical antiquity through the eighteenth century: patterns of development; major architects and monuments; methods of interpretation. Does not presume previous knowledge or special skills. **The Staff. A**

3. *Foundations of Western Art in Antiquity*
(Archaeology and the Ancient World 3, Classics 3)
Interested students should register for Archaeology and the Ancient World 3. **A**

4. (0040) *Introduction to Chinese Art and Culture* (East Asian Studies 4)
Examines development of Chinese art and material culture: Stone Age to the Cultural Revolution. Emphasis: connections between art and its social, political, and intellectual context. Readings in literature, thought, and history are a basic part of this course. **R. Bickford.**

5. (0050) *First Year Seminar*
This seminar is designed to introduce first-year students to the basic study of specific topics in the History of Art and Architecture in a workshop setting. Readings and discussion are emphasized, as is an active introduction to the tools and methods of the discipline in regard to the topics researched in each class. Guided research and writing.

*Art in the Age of Phillip II*
Examines the visual culture of the golden age of Spain and Europe from the perspective of the most powerful ruler and patron of the later Renaissance. Enrollment limited. Written permission required. **C. Zerner. A**

(0050A) *The Shape of Good Fortune* (East Asian Studies 5)
Auspicious images that attract blessings and repel harm constitute the longest, richest traditions in the history of Chinese visual culture. Topics include: tomb painting and sculpture of Early China; imperial omen painting; auspicious ornaments in metalwork, ceramics, and textiles; popular prints; visual puns and other strategies of auspicious embodiment; realism and efficacy. Enrollment limited. Written permission required. **R. Bickford.**

10. *Traditional Chinese Architecture and Urbanism*
Introduces various aspects of traditional Chinese architecture and urbanism, enriching the historical and aesthetic vision of students of history of art. Develops an appropriate approach to studies of Chinese and East Asian architectural and urban history. **R. Bickford. A**

11. (0110) *Ancient China: Art and Archaeology* (East Asian Studies 11)
An introduction to Chinese art and culture, focusing on recently excavated evidence of material culture from the Stone Age through the Han Dynasty. Students will learn to use the materials and methods of archaeology, art history, and the history of technology, as well as readings in history, literature, and philosophy to interpret excavated materials. Weekly one-hour conference required. **R. Bickford. A**

14. (0140) *Introduction to Medieval Art and Architecture*
A comparative examination of the three artistic cultures of the medieval Mediterranean: Islam, the Byzantine empire, and the predominantly Christian regions of western Europe. Medieval Jewish art is also treated. Topics include medieval attitudes toward the use of images, the architecture of worship (churches, synagogues, and mosques), royal and domestic art, and instances of contact among all three cultures. Weekly one-hour conference required. **S. Bonde. A**
15. (0150) Visual Culture of the Hispanic World, 1500-1800
Surveys the visual culture(s) in the viceroyalties of New Spain and Peru over a 300-year period from the reign of the Catholic kings in the 15th century to the beginnings of independence at the end of the 18th century. C. ZERNER. A

16. (0160) Philip II of Spain: Society, Politics, and the Arts
Examines the visual culture of the golden age of Spain and Europe from the perspective of the most powerful ruler and patron of the later Renaissance. Enrollment limited. Written permission required. C. ZERNER.

20. (0200) Chinese Scholar Ink Painting (East Asian Studies 20)
During the Song and Yuan dynasties (11th-14th century), Chinese scholars created a new kind of art that combined poetry, calligraphy, and painting. Course examines the development and uses of scholar painting as part of China’s cultural history from the Song Dynasty to the twentieth century. R. BICKFORD.

21. (0210) Chinese Painting during the Song Dynasty
The Song Dynasty (960–1279) was a formative period in Chinese art and culture: monumental landscape painting flourished, courtly arts rose to unprecedented (and never-equalled) heights, and scholarly and Chan ink-painting emerged as expressive alternatives. We explore these dynamic developments in the context of politics, literature, and material culture. R. BICKFORD.

23. (0230) Greek Art and Architecture† (Archaeology and the Ancient World 42, Classics 34)
All media are discussed and, while the emphasis of the course is on a different period each year, a comprehensive introduction to the entire history of Greek art, architecture, and archaeology is always provided. No prior background is required. R. WINKES. A

34. (0340) Roman Art and Architecture: Late Republican to Hadrian
(Archaeology and the Ancient World 52)
An introduction to the major monuments in Roman art at the point when the Empire emerged up to the time of the creation of the Pantheon. No prior background required. R. WINKES. A

41. (0410) Islamic Art and Architecture (Medieval Studies 41)
The formation of an Islamic artistic expression in art and architecture and the regional manifestations of that art from central Asia and the Middle East to Sicily and Spain. Weekly one-hour conference required. THE STAFF. A

44. (0440) Gothic Art and Architecture†
Critically engages the notion of Gothic art and architecture in order to examine its sources and “invention” in mid-12th-century France and to explore its varied manifestations in European art to the 16th century. Special attention is given to cathedral architecture and decoration. Weekly one-hour conference required. S. BONDE. A

47. Muslims, Jews, and Christians in Medieval Iberia
(Medieval Studies 62, Portuguese and Brazilian Studies 96, Hispanic Studies 62, University Courses 62)
Interested students should register for Medieval Studies 62. A

48. Introduction to Islamic Archaeology
(Archaeology and the Ancient World 60, Anthropology 55, Religious Studies 60)
Interested students should register for Archaeology and the Ancient World 60. A
50. (0500) From Van Eyck to Bruegel†
Artists of Flanders and Holland effected a revolution in the techniques and subjects of painting during the 15th and 16th centuries. This course explores the roots of artistic change in religion, urban history, politics, Italian humanism, economics, and craft traditions. The focus is on the great works of such artists as Jan van Eyck, Hieronymus Bosch, and Pieter Bruegel the Elder. J. M. MULLER.

52. Roman Art and Architecture from the Late Roman Republic to the Early Empire (First Century BCE–First Century AD) (Archaeology and the Ancient World 52)
Interested students should register for Archaeology and the Ancient World 52. A

55. (0550) Florence and Tuscany in the Fifteenth Century (Italian Studies 96)
An examination of the paintings, sculpture, graphic art, and architecture of Tuscany in the 15th century in Florence, but also venturing into Siena, Arezzo, Borgo San Sepolcro. Using Renaissance critical terms and analytical tools, we take into account the technical and commercial habits of craftspeople, the economy of the cities and towns, and the forms and functions of art in domestic, civic, and religious spheres. Weekly one-hour conference required. E. LINCOLN. A

56. (0560) The Visual Culture of Early Modern Rome (Italian Studies 56)
Examines Renaissance Roman painting, sculpture, and architecture in the context of the unique urban character of the city: site of antique myth, religious pilgrimage, and a cosmopolitan court. Beginning with Filarete and Fra Angelico, we move through the Renaissance (Michelangelo and Raphael), looking at the formation of artists’ workshops and academies, ending with the urbanization programs of Sixtus V. E. LINCOLN. A

58. (0580) Word, Image and Power in Renaissance Italy† (Renaissance and Early Modern Studies 58, History 96, Italian Studies 58)
This class is taught by professors from multiple departments, and is designed to introduce cultural and historical perspectives on Italy from medieval Siena to Venice in the High Renaissance. We will move across Italy and the centuries focusing on monuments of art, architecture and literature through different disciplinary lenses. E. LINCOLN

60. (0600) Baroque
The course surveys the visual culture of Rome from 1564–1700. During that time Rome became the center of artistic change in Europe, the seat of the Counter-Reformation Catholic Church, and the dominant source of classical learning. All media that participated in these historical developments are included: from papal urban plans to Bernini’s fountains and Caravaggio’s paintings. J. M. MULLER. A

62. (0620) The Age of Rubens and Rembrandt: Visual Culture of the Netherlands in the Seventeenth Century
Surveys the amazing art in Holland and Flanders that revolutionized all media. We will see how paintings, sculpture, and architecture formed the historical environment of life in the 17th-century Netherlands. The work of such artists as Rubens, Rembrandt, Van Dyck, and Vermeer is presented as part of this history of art in a “golden age.” Weekly one-hour conference required. J. M. MULLER.

65. (0650) Eighteenth-Century Art—Imagining the Global Eighteenth-Century
Forging a modern state and a modern empire involved new and reworked forms of visual representation. This course looks at how artist in the two leading imperial Western powers, England and France, produced art that addressed the concerns of diverse and newly expanded audiences. K. D. KRIZ.
70. (0700) Nineteenth-Century Architecture (Urban Studies 70)  
Surveys stylistic developments, new building types, and the changing conditions of architectural production through the 19th century. Special emphasis placed on the social context in which buildings were designed and used. Weekly one-hour conference required.  
D. Neumann.  

75. (0750) Imagining Nation and Empire in Early Nineteenth-Century Europe  
Course will examine visual culture in the context of socio-political transformations during the period. We’ll analyze oil paintings, watercolors, prints, and phenomena such as the panorama and the Great Exhibition. While we will look briefly at artistic production in Spain and Germany, the geographical focus will be on the two major Western colonial powers, Great Britain and France. K. D. Kriz.  

76. (0760) Later Nineteenth-Century Painting  
Impressionist and Postimpressionist painting. Weekly one-hour conference recommended.  
The Staff.  

80. (0800) Twentieth-Century European Art  
Modern Art 1880–1945 surveys a wide range of modern art practices in Europe from the 1880s up through World War II. Works of art and avant garde modern movements of the early 20th century will be framed by their historical contexts including issues of nationalism, gender, identity and colonial politics. Weekly discussion sections focus on problems of interpretation and reception. Enrollment limited. Written permission required.  
The Staff.  

84. (0840) History of Rhode Island Architecture  
This course examines the historical development of architecture and building in Rhode Island within the larger context of colonial and national trends and with a focus on important manifestations of a distinct regional identity. Emphasis will be placed on stylistic developments, new building types and technologies, and the social and economic influences on the creation of the built environment.  
The Staff.  

85. (0850) Modern Architecture (Urban Studies 85)  
The “classic” period of European and American modern architecture from the turn of the century to the 1950s. Presents both the established canon of masterpieces by Frank Lloyd Wright, Mies van der Rohe, and LeCorbusier, and counterbalances this approach with information about new building materials, changing conditions of architectural production, and the “mechanisms of fame.”  
D. Neumann.  

86. (0860) Contemporary Architecture (Urban Studies 86)  
Stylistic, technological, and theoretical developments in architecture from the 1960s to the present. Analyzes movements such as “Brutalism,” “Postmodernism,” and “Deconstruction” and works by architects such as Frank Gehry, I. M. Pei, and Zaha Hadid. Emphasizes the complex conditions of architectural production in different parts of the world. Complements HA 85, but may be taken independently.  
D. Neumann.  

88. (0880) Contemporary Art I:  
This course offers a comprehensive panorama (while inevitably not an all-inclusive one) of the arts from the last sixty years. It covers the major trends and a selection of significant individuals from the post-war period to the most recent developments; following a chronological timeline that leads from abstract-expressionism, minimal art, pop art, performances, happenings, to the various “post” critical attitudes (post-painterly; post-modern).  
H. Vanel.
89. (0890) Contemporary Art II: (Visual Art 101)
This class considers the historical persistence the dream of a realization of art in life from its romantic formulation to its recent incarnations in the contemporary era with an emphasis on the early 20th century avant-gardes, the utopian tendencies of the 20’s and 30’s, the effects of cybernetic in the 50’s and the development of environmental art forms since the 60s. H. VANEL. A

90. (0900) Film Architecture† (Urban Studies 90)
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.) D. NEUMANN. A

For Undergraduates and Graduates

100. Russian Modernism and the Arts (Russian 100)
Interested students should register for Russian 100.

104. (1040) Topics in East Asian Art
May be repeated for credit. Enrollment limited. Written permission required.

114. Topics in Medieval Art
Enrollment limited. Written permission required.

115. (1150) Topics in Hispanic Art and Architecture
Enrollment limited. Written permission required.

117. (1170) Topics in American Art

120. (1200) Topics in Roman Art and Architecture

132. Eighteenth Century German Aesthetics (German 132)
Interested students should register for the appropriate section of German 132.

145. (1430) Topics in Medieval Visual Culture

146. (1440) Medieval Architecture
Enrollment limited. Written permission required.

147. Topics in Medieval Art
Written permission required.

152. (1520) Special Topics in Nineteenth Century Art and Literature
   Pre-Raphaelites, Aesthetes, and Decadents (English 151)
   Interested students should register for the appropriate section of English 151.
   Victorians in Togas: Classicism and Empire in Victorian Literature and Art (English 156)
   Interested students should register for the appropriate section of English 156.

155. (1550) Topics in the Early History of Printmaking
   Enrollment limited. Written permission required.

156. (1560) Topics in Italian Visual Culture
   Enrollment limited. Written permission required.

158. (1580) Topics in Renaissance Architecture
160. (1600) *Topics in Seventeenth-Century Art*
   Written permission required.

165. (1650) *Topics in Eighteenth-Century Art*
   Written permission required.

170. (1700) Topics in Nineteenth-Century Architecture
   Enrollment limited. Written permission required.

175. (1750) *Topics in Early Nineteenth-Century Art*
   Enrollment limited. Written permission required.

176. (1760) *Topics in Later Nineteenth-Century Painting*
   Written permission required.

185. (1850) *Topics in Twentieth-Century Architecture*

189. (1890) *Topics in Contemporary Art*
   Enrollment limited. Written permission required.

191. (1910) *Project Seminar for Architectural Studies Concentrators*
   May be repeated once for credit. Enrollment limited. Written permission required.

192. (1920) *Individual Study Project in the History of Art and Architecture*
   Reading and reports on an approved topic, supervised by a member of the staff. Project proposals must be submitted and approved no later than the first week of the semester.

198. (1990) *Honors Thesis*
   The subject of the thesis and program of study will be determined by the needs of the individual student.

199. (1990) *Honors Thesis*
   The subject of the thesis and program of study will be determined by the needs of the individual student.

**Primarily for Graduates**

204. (2040) *Research Seminar in Chinese Art*
   May be repeated for credit. Written permission required.

214. *Research Seminar in Medieval Art*
   May be repeated for credit. Written permission required.

215. (2150) *Research Seminar in Hispanic Art and Architecture*
   May be repeated for credit. Written permission required.

225. (2250) *Research Seminar in Greek Art and Architecture* (Archaeology and the Ancient World 202)
   May be repeated for credit. Written permission required.

235. (2350) *Research Seminar in Roman Art and Architecture*
   May be repeated for credit. Written permission required.

254. (2540) *Topics in the History of Printmaking*
   Enrollment limited. May be repeated for credit. Written permission required.

255. (2550) *Topics in Italian Visual Culture 1300–1600*
   May be repeated for credit. Written permission required.

256. (2560) *Research Seminar in Early Modern Art and Architecture*
   May be repeated for credit. Written permission required.
260. (2600) Research Seminar in Seventeenth-Century Art
Enrollment limited. Written permission required.

265. (2650) Research Seminar in Eighteenth-Century Art
May be repeated for credit. Written permission required.

275. (2750) Research Seminar in Nineteenth-Century Visual Culture†
May be repeated for credit. Enrollment limited. Written permission required.

276. (2760) Research Seminar in Later Nineteenth-Century Painting
May be repeated for credit. Written permission required.

280. (2800) Research Seminar in Twentieth-Century European Painting†
May be repeated for credit. Written permission required.

285. (2850) Research Seminar in Twentieth-Century Architecture†
May be repeated for credit. Written permission required.

287. (2870) Special Topics in History of Art and Architecture
May be repeated for credit. Written permission required.

288. (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. No course credit.

289. (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 their doctoral examination. No course credit.

290. (2980) Individual Reading
Single credit.

291. (2981) Individual Reading
Section numbers vary by instructor. Please see the registration staff for the correct section number to use when registering for this course. Double Credit.

292. (2920) Methods of Research and Art Historical Interpretation
Required of and restricted to first-year history of art and architecture A.M./Ph.D. students. THE STAFF.

293. (2930) Practicum
Required of and restricted to first-year history of art and architecture A.M./Ph.D. students. THE STAFF.

294. (2940) Master’s Qualifying Paper Preparation

297. (2982) Individual Reading for the Doctoral Candidate
Single Credit.

298. (2983) Dissertation Research
Section numbers vary by instructor. Please see the registration staff for the correct section number to use when registering for this course. Double Credit.

299. (2990) Thesis Preparation
For graduate students who are preparing a thesis and who have met the tuition requirement and are paying the Registration Fee to continue active enrollment. No course credit.
Courses at the Rhode Island School of Design

It is possible under certain conditions for undergraduates enrolled at Brown to take courses in art history and/or architecture at the Rhode Island School of Design (RISD) and to have such work credited toward their degree requirements (see page 579). No more than four courses may be taken at RISD for Brown credit during a student’s undergraduate career. Students seeking History of Art and Architecture concentration credit for courses taken at RISD must obtain prior approval from the concentration advisor.

Forms and instructions for cross-registration at RISD are available in the Brown Registrar’s Office.

Courses at Harvard

It is possible under certain conditions for graduate students to take courses at Harvard and to have such work credited toward their degree requirements. No more than four courses may be taken at Harvard during a student’s graduate career. Students seeking History of Art and Architecture concentration credit for courses taken at Harvard must obtain prior approval from the Director of Graduate Studies.

Forms and instructions for cross-registration at Harvard are available in the Brown Graduate School.

Center for the Study of Human Development

Child and Adolescent Development is the primary focus of research and teaching of the faculty affiliated with this multidisciplinary Brown University center. In the interdisciplinary study of processes by which infants, children and adolescents proceed through life along pathways characteristic of our species, issues of behavioral stability, change and transformation are paramount. The study of development focuses on the dynamic processes that underlie behavioral, cognitive, social, and affective growth, learning, language, and maturation. Influences of social and cultural context constitute critical elements of these dynamic systems.

The Center was founded in 1967 as the Child Study Center and has had a long history of sponsoring research informed by a variety of disciplines, including longitudinal studies of infant growth and development, social adaptation through childhood and adolescence, and educational reform. Research conducted by faculty affiliated with the Center in recent years includes studies of language acquisition, social and cognitive development, sleep, cultural and structural bases of developmental processes, and parenting and family functioning. Studies include both normative populations and children at risk due to physiological and/or social disadvantage. A distinguishing feature of child and adolescent developmental research at Brown is its integration of basic scientific scholarship with research that bears direct implications for practitioners and policy makers.

At Brown, scholarship in child and adolescent development is distributed across multiple departments, including Anthropology, Cognitive and Linguistic Sciences, Education, Pediatrics, Psychiatry and Human Behavior, Psychology, and Sociology. A key mission of the Center is to provide a setting where faculty and students from all units at Brown may collaborate in addressing major issues in human development.
The center’s activities are threefold:

1. The center facilitates communication and collaboration among faculty and students interested in developmental research and training—a collaboration that crosses departmental and disciplinary boundaries and creates links between the campus and the medical school.

2. The center serves as a resource for programs for students interested in learning about human development both on campus and at the medical school. These currently include the Human Development track of the Education Studies concentration, administered by the Education Department which includes courses from several social and life science departments. In addition the Center sponsors pre- and postdoctoral training that provides a solid basis for pursuing careers in Psychology, Education, Pediatrics and a variety of other human service fields. Through grants obtained by faculty and the Solsbery Fellowship Fund students can obtain funding to conduct their own research and/or work closely on a variety of ongoing research projects.

3. The center sponsors an annual colloquium series that brings faculty from within and outside Brown and conferences on topics of interest to the campus community and the broader community beyond Brown. In 2001, for example, a 2-day conference on “Genetic Influences on Human Behavior and Development” provided the basis for a book shortly to be published by Lawrence Erlbaum Associates, Inc., Publishers.

For additional information please visit the Center’s webpage at: http://www.brown.edu/Departments/Human_Development_Center/index.html.

International Health Institute

The International Health Institute (IHI) was established in 1988 to develop, promote, and coordinate the international health activities of Brown University faculty and students. The mission of the IHI is to apply interdisciplinary perspectives to research and training to improve the health of populations in developing countries. IHI faculty have established research collaborations with institutions in developing countries on topics including HIV/AIDS, cardiovascular disease in the health transition and tropical parasitic diseases. The IHI supports supervised research experiences with overseas partners for Brown University undergraduate, medical, and graduate students. In cooperation with the Department of Community Health, the IHI sponsors BC 107, The Burden of Disease in Developing Countries. The course develops an interdisciplinary perspective on international health, and emphasizes the socioeconomic, ecological, and environmental context of morbidity and mortality and the changing demographic and epidemiologic patterns of disease.

The IHI director is Stephen T. McGarvey, Ph.D., M.P.H. For more information see the institute’s website at: http://bms.brown.edu/ihi.

International Relations

Executive Committee: Engin Akarli, History; Onesimo Almeida, Portuguese and Brazilian Studies; Thomas Biersteker, Watson Institute; Keith Brown, Watson Institute; Melani Cammett, Political Science; Linda Cook, Political Science; James Der Derian, Watson Institute; Claudia Elliott, Watson Institute; Abbott Gleason, Watson Institute; Patricia Herlihy, History; Denise Hogan, Sociology; Marida Hollos, Anthropology; P. Terrence
Hopmann, Political Science; David Kertzer, Anthropology and History; Anthony Lancaster, Economics; Ross Levine, Economics; Dore Levy, East Asian Studies; Catherine Lutz, Watson Institute; Stephen McGarvey, International Health Institute; Barbara Stallings, Watson Institute; Newell Stultz, Political Science; Nina Tannenwald, Watson Institute; Kay Warren, Watson Institute.

Undergraduate Program

International Relations is an interdisciplinary concentration cutting across all social science disciplines, with additional requirements for competence in at least one modern foreign language and research methods in the social sciences. It emphasizes issues concerning the relations among governments, international organization, nongovernmental groups, and insurgent or terrorist groups. A broad concentration, it analyzes global issues from a variety of perspectives. It explores geographical dimensions of international relations, bridges normative and empirical perspectives, examines continuity of international developments from the past to the present and into the future, and it seeks to identify multiple approaches to explaining the most important phenomena occurring in contemporary international relations.

The majority of courses in the concentration are drawn from departmental offerings. The Program also offers a small number of its own courses. The listing below indicates the core courses for the concentration. This is a small selection of the many courses available to IR concentrators. For a complete description of the International Relations concentration program leading to the A.B. degree, see the Program website at: www.watsoninstitute.org/IR or visit: http://www.brown.edu/Administration/Registrar/concentration.html.

Courses of Instruction

Primarily for Undergraduates

40. Conflict and Cooperation in International Politics (Political Science 40)
Interested students should register for Political Science 40.

For Undergraduates and Graduates

128. (1280) Global Security After the Cold War (Political Science 141)
Analyzes major contemporary issues of global security utilizing current theories of international politics, emphasizing both continuity and change in global security since the end of the Cold War. Issues examined include proliferation of weapons of mass destruction and of conventional weapons, terrorism, recent arms control and disarmament initiatives, and the changing role of alliances and regional and global security institutions. Prerequisite: PS 40.

130. Theories of International Relations in the Twentieth Century (Political Science 148)
Interested students should register for Political Science 148.

132. International Political Economy of Development (Political Science 142, Development Studies 142)
Interested students should register for Political Science 142.

133. Political Anthropology (Anthropology 133)
Interested students should register for Anthropology 133.
134. **International Organization** (Political Science 139)
Interested students should register for Political Science 139.

135. (1350) **History and Theory of International Relations** (Political Science 149)
Examines the struggles of power and knowledge which have constituted international relations history and theory. This survey stretches from the beginnings of the Western states system and its early exemplar thinkers like Machiavelli, Grotius, and Kant, to the current issues and contemporary theories of international relations. Focuses primarily on the 'classical' and 'post-classical' theories of international relations. J. DER DERIAN.

136. **War and Society** (Anthropology 140)
Interested students should register for Anthropology 140.

137. **Violence and the Media** (Anthropology 128)
Interested students should register for Anthropology 128.

141. **Comparative Political Economy** (Political Science 145)
Interested students should register for Political Science 145.

170. (1700) **International Law**
This introduction to public international law covers the nature of legal reasoning in international relations, the interplay of international law and international politics, and the international legal process. Examines selected substantive fields such as state responsibility, the use of force, international human rights, and the U.S. and international law. For juniors and seniors. Prerequisite: PS 40.

180. (1800) **Senior Seminars**
These seminars constitute the capstone of the IR concentration. They integrate interdisciplinary approaches to the study of international relations around a specific topic of contemporary interest. Approximately eight to ten seminars are offered on topics related to the four tracks. A complete list of the current senior seminars may be obtained from the Program website. Enrollment limited. Written permission required.

191. (1910) **Senior Honors Seminar**
Limited to seniors. Open only to students accepted into the honors program in international relations.

192. (1920) **Senior Honors Thesis**
Open only to students accepted into the honors program in international relations.

193. (1970) **Individual Research Project**
Limited to juniors and seniors.

194. (1970) **Individual Research Project**
Limited to juniors and seniors.

**Italian Studies**

Professors Kertzer (Anthropology), Martinez (Chair), Oldcorn (Emeritus), Riva; Associate Professor Lincoln (History of Art and Architecture); Assistant Professors Castiglione (Undergraduate Advisor), Stewart-Steinberg (Graduate Advisor); Senior Lecturer De Angelis; Lecturer Abbona-Sneider; Visiting Professor from University of Bologna; Lecturer of the Italian Government.

Italian Studies at Brown not only teaches language and literature to students but also guides their research toward problems that are cross-disciplinary in both content and method,
rather than merely confirming a fixed canon or predeterimed field of study. To investigate these problems, we can draw upon traditional alliances with Anthropology, Art History, Classics, Comparative Literature, History, Musicology, and Philosophy, but we also join forces with disciplines such as History of Science, Film Studies, Cultural Studies, Women’s Studies, and the use of Computers in the Humanities.

Undergraduate Program

It is quite possible to concentrate in Italian without having studied the language before coming to Brown, although doing so requires an early start. Accelerated programs should be discussed with the concentration advisor. Having fulfilled the language requirements, students will be able to enroll in a variety of advanced courses, reflecting the interdisciplinary scope of Italian studies at Brown (including literature, history, history of art and culture). For a complete description of the standard concentration program leading to the A.B. degree, please see the Department website at: http://www.brown.edu/Departments/Italian_Studies/ or visit: http://www.brown.edu/Administration/Registrar/concentration.html.

Graduate Programs

The interdisciplinary graduate program in Italian Studies at Brown University offers students the opportunity to study the language, history and culture of Italy under the guidance of internationally renowned scholars in Anthropology, History, History of Art, Literature and Media. Major international scholarly resources for the study of Italian culture are currently produced by Brown faculty and their students, including:

The interdisciplinary Journal of Modern Italian Studies, edited by David Kertzer and John Davis (University of Connecticut).

www.brown.edu/Research/Journal_Modern_Italian_Studies/

Online projects (www.brown.edu/Departments/Italian_Studies/projects.html), based on international collaborations and recent winners of several awards, including major NEH grants:

1427 Florentine Catasto Project and Tratte database, based on the work of the late David Herlihy and edited by Burr Litchfield (History, Brown Emeritus) and Anthony Molho (European Institute in Florence)

The Decameron Web, edited by Massimo Riva and Michael Papio (University of Massachusetts, Amherst)

The Pico della Mirandola Project, coordinated by Massimo Riva, Francesco Borghesi (McGill University) and Dino Buzzetti (University of Bologna)

The electronic archive of the Dante journal Lectura Danatis, edited by Michael Papio


Doctor of Philosophy

Requirements for the Ph.D.

There are three major stages in the Ph.D. program: 1) Preparation for Candidacy, which includes Coursework, the First Year Review and fulfilling the Teaching and Foreign Language Requirement; 2.) Advancement to Candidacy, which includes the Preliminary
Examination and writing an approved Dissertation Proposal; 3.) writing the Dissertation in completion of the degree.

1. Preparation for Candidacy
   a. Course requirements:
      At least twelve 100- or 200-level courses in Italian Studies are required of doctoral students, including:
      IT 210 Introduction to Italian Studies (1st year)
      IT 282 Italian Studies Colloquium (offered every year in Spring Sem., students are expected to attend it, when in residency)
      IT 290 Teaching Methodology (no later than the first semester of the second year).
   b. First Year Review:
      At the end of the first year, each student will participate in a review of his or her progress in the program. This review by the Department Graduate Committee will be based on a sample of work submitted by the student (e.g. seminar papers) and on reports by the student’s instructors.
   c. Foreign Language Requirement:
      Two Foreign languages, other than English and Italian.
   d. Teaching Requirement:
      A minimum of two years of teaching experience is required for the degree.

2. Advancement to Candidacy
   a. Preliminary Examination
      Students entering the program with a B.A. are expected to take the Preliminary Examination (PE) by the end of the 5th-semester (Semester 1 of the third year). Students entering with an M.A. are expected to take the PE by the end of the 4th-semester (second year).
      There are three necessary steps for the preparation and completion of the PE: 1.) the student must define his or her fields of examination and form a PE committee; 2.) he or she must select a list of texts and other materials for the examination in consultation with the PE committee; 3.) the student must take the examination. [For more information, consult the Graduate Student handbook, available online at: http://gradschool.brown.edu/go/academics]
   b. The Dissertation Proposal and the Dissertation
      After passing the preliminary examination, the candidate proceeds to the Dissertation Proposal. He or she forms a dissertation committee, writes a Dissertation Proposal, en route to writing the dissertation and finishing the degree. The Dissertation is generally a book-length study. It must constitute an original contribution to its fields of concern and meet the highest standards of scholarly competence.

Courses of Instruction

Primarily for Undergraduates

10-20. (0100-0200) 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. Sufficient for enrollment in the Bologna Program. Five meetings per week, audio and video work, Italian films.
      THE STAFF.
11. (0110) **Intensive Elementary Italian**  
Covers the same material presented in Italian 10–20. One semester equivalent to the standard two-semester sequence. Eight meetings per week plus audio and video assignments. Double credit.

30. (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. Italian films. Prerequisite: IT 10–20, or placement by examination. **THE STAFF.**

40. (0400) **Intermediate Italian II**  
Review of specific grammar problems. Reading of one novel or play, short stories, and newspaper articles. Compositions and oral presentations. Italian films. Prerequisite: IT 30, or placement by examination. **THE STAFF.**

50. (0500) **Writing and Speaking Italian I**  
A third-year course with intensive practice in speaking and writing. Selected works illustrative of contemporary Italian society provide a basis for reading and discussion. Compositions, oral presentations, and a paper. Three meetings per week plus weekly film screenings. Prerequisites: IT 40, or placement by examination, or written permission. **THE STAFF.**

56. **The Visual Culture of Early Modern Rome**  
(History of Art and Architecture 56)  
Interested students should register for History of Art and Architecture 56.

58. **Word, Image, and Power in Renaissance Italy**  
(History of Art and Architecture 58, Renaissance and Early Modern Studies 58, History 96)  
Interested students should register for History of Art and Architecture 58.

60. (0600) **Writing and Speaking Italian II**  
Continuation of 50. Emphasis on formal and informal styles of writing and speaking, using literary and nonliterary texts. Compositions, oral presentations, and weekly film screenings. Prerequisite: IT 50, placement by examination, or written permission. **THE STAFF.**

75. (0750) **Truth on Trial: Justice in Italy** (History 97)  
This seminar analyzes controversial trials in Italy between 1500 and 1800. From the persecution of heretics to the trial of Galileo and the increasing use of courts by marginal members of society, the judicial arena was crucial in defining political, social, scientific, and religious truth. Were law courts successful sites for resolving what constituted deviance, legitimate knowledge and individual rights? **C. CASTIGLIONE.**

95. (0950) **Introduction to Italian Cinema: Italian Film and History**  
How do we visualize the past? How has cinema influenced our understanding of contemporary history? The course will focus on how key moments of 20th-century History (Fascism, WWII, the Mafia and Terrorism) have been described or fictionalized by major Italian film-makers (including Benigni, Bertolucci, Cavani, Fellini and Pasolini). Subtitled films, readings and discussion groups. **S. STEWART-STEINBERG.**

96. **Florence and Tuscany in the Fifteenth Century**  
(History of Art and Architecture 55)  
Interested students should register for History of Art and Architecture 55.
For Undergraduates and Graduates

100. (1000) Studies in Contemporary Italian Culture
An introduction to contemporary Italian culture, history and society. Topics vary from year to year and instructor to instructor. Taught in English or Italian.

101. (1010) Dante in English Translation
Primarily for students with no knowledge of Italian. Devoted to the study of Dante’s works, with emphasis on the *Vita Nuova* and the *Divine Comedy*. Given in English. Concentrators in Italian should enroll in IT 161; they are expected to read the material in the original. R. L. Martinez.

102. (1020) Boccaccio’s “Decameron”
In its hundred stories, narrated in ten days by ten young people escaping the plague in 14th-century Florence, the *Decameron* combines sheer entertainment with a meaningful humanistic message, providing an extraordinary gateway into late medieval life and culture. Students contribute to an interactive web site entirely dedicated to the study of Boccaccio’s masterpiece. Sections in both English and Italian. M. Riva and R. L. Martinez.

103. (1030) Realism and Utopia in Italian Cinema
A seminar on the work of major directors and/or special topics in contemporary Italian cinema. Directors and special topics vary from year to year. M. Riva.

132. (1320) Great Authors and Works of Italian Renaissance
The major authors and trends of 16th-century Italy (Machiavelli, Giucciardini, Ariosto, Tasso, classicism and anti-classicism, petrarchism, mannerism). R. L. Martinez.

133. Opera, Politics, History, Gender (Music 135)
Interested students should register for the appropriate section of Music 135.

134. (1340) Italian Stories: A Comparative Overview
The Staff.

135. (1350) Contemporary Italian Literature
From Svevo and Pirandello through “hermetic” poetry and neorealism, to minimalism and postmodernism. Topics vary and include: “Narratives for the Next Millenium” (Calvino and Eco), “Nonfiction” (literature and documentary film), and “Contemporary Poetry.” M. Riva.

136. (1360) Renaissance Italy (History 196)
Italian society and culture from the second half of the thirteenth to the middle of the sixteenth century. Special attention devoted to the contexts (demographic, social, economic, political) within which political ideas and theories were developed from the generation before Dante to that following Machiavelli. C. Castiglione.

137. Women in Italy, 1500–1800 (History 197)
Interested students should register for the appropriate section of History 197.

138. (1380) Italy: From Renaissance to Enlightenment
Between 1500 and 1800, Italians made significant contributions to European debates about the boundaries between orthodoxy and heresy; the legitimacy of social and gender hierarchies; the future of republics in an age of empires; and the possibilities for reform. Works by Machiavelli, Bernini, Galileo, Tarabotti, Goldoni, and Beccaria (among others) enrich this survey of early modern Italian history.
139. (1390) Modern Italian History (Anthropology 108)
Examination of Italian society, culture, and politics over the past two centuries. Particular attention is devoted to the creation of Italian national identity, the role of the Catholic Church, changing gender and class relations, conflicts between North and South, the development of fascism, postwar political developments, and changing Italian family life.
D. I. KERTZER OR STAFF.

140. (1400) Special Topics in Italian Studies
Seminars on topics that transcend usual course boundaries and are of special concern to a member of the department. Undergraduates explore the ramification of the topic under the direction of the instructor.

155. (1550) Italian Representations of the Holocaust
A survey of some of the most important texts (fiction, history, philosophy, films) that deal with both the Holocaust in Italy, and representations of the Holocaust by Italians. Readings include Levi, Bassani, Loy, Agamben; films those of Benigni, Cavani, Wertmuller. There will also be discussion of the aesthetic and political complexities regarding portrayals of the Holocaust, such as trauma, witnessing, historical truth, kitsch. Taught in English, with the possibility of a section in Italian. S. STEWART–STEINBERG.

156. Renaissance Venice and the Veneto
† (History of Art and Architecture 156)
Interested students should register for the appropriate section of History of Art and Architecture 156.

161. (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. R. L. MARTINEZ.

162. (1620) The Divina Commedia: Paradiso
A close reading of the visionary third canticle of Dante’s Comedy in its medieval context and in its relationship to the author’s political treatise Monarchia and to the unfinished commentary on three of his poems, the Convivio (Banquet). In Italian. Prerequisite: IT 50 or 60. R. L. MARTINEZ.

192. (1920) Independent Study Project
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 in a specific area of Italian Studies not covered in the current course offerings.

198. (1990) Senior Conference
Special work or preparation of an honors thesis under the direction of a member of the staff.

Primarily for Graduates

205. (2050) Microhistory (History 298)
Italian historians pioneered a methodology called “microhistory,” which emphasizes the importance of interpreting seemingly insignificant details in order to understand individuals for whom we typically have little information. We will examine some classic examples of this genre, alongside debates about the method. Students should pursue their own geographic and disciplinary interests in the final assignment by writing a microhistory.
C. CASTIGLIONE.
210. (2100) **Introduction to Italian Studies**
Introduction to problems, instruments, and techniques of interdisciplinary research, as applicable to Italian studies—anthropology, history, art history, literary and media studies, including computing for the humanities. Taught in Italian for graduate students or concentrators. M. RIVA OR STAFF.

215. (2150) **Studies in the Renaissance and Baroque**
Monographic studies in major 16th- and 17th-century authors. R. L. MARTINEZ.

216. (2160) **Family History: Early Modern Methods and Sources** (History 297)
This course examines the world’s oldest institution during the early modern period (1500–1800). Italian scholars have been especially innovative in advancing our understanding of the early modern family, relying on legal, quantitative, religious, literary, and visual sources in their efforts. Students may concentrate in their longer essay on controversies in family history currently debated in or beyond the Italian context. C. CASTIGLIONE.

230. (2300) **Seminar in Italian Literature and Criticism**
Analytical study of specific authors, works or subjects. Taught in Italian for graduate students and concentrators. STAFF.

255. **Topics in Italian Literature Culture**
(History of Art and Architecture 255)
Interested students should register for the appropriate section of History of Art and Architecture 255.

282. (2820) **Special Topics in Italian Studies**
Written permission required.

289. (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. No course credit.

290. (2980) **Theory and Methods of Foreign Language Teaching** (French Studies 290, German 290, Hispanic Studies 290)
Theory and practice of foreign language learning and teaching (theory of language, language learning and acquisition, approaches, methods and techniques, curriculum design, materials development, testing and evaluation). In English. Written permission required for undergraduates. S/NC. D. M. DE ANGELIS.

292. (2990) **Reading and Research**
Courses on special subjects individually planned and supervised.

299. (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. No course credit.

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**Judaic Studies**

Professors Davidman, Dietrich (Emeritus), Frerichs (Emeritus), Goldscheider (Emeritus), Kraemer, Olyan, Vieira; Associate Professors Jacobson (Director), Mandel, Satlow; Assistant Professor Brink-Danan; Visiting Assistant Professors Galor, Gottsegen; Senior Lecturer Adler; Faculty affiliated with the Program: Professors Bartov, Brown, Dean, Gluck, Kertzer, Steinberg, Tennenhouse, and Zuckerman.
The Program in Judaic Studies is an interdisciplinary unit devoted to the academic study of Jews and Judaism in all historical and geographic contexts. The faculty includes scholars from both humanistic and social scientific disciplines, including anthropology, history, literary criticism, philosophy, and sociology. We offer an undergraduate curriculum that covers a wide array of courses in Judaic Studies. Several of our faculty members are engaged in graduate instruction in other departments. In addition to faculty members with appointments in the Program, eight Brown faculty members with research and teaching interests in Judaic Studies are affiliated with the Program. Their home departments include Anthropology, History, Modern Culture and Media, Political Science, and Sociology.

**Undergraduate Program**

For a complete description of the standard concentration program leading to the A.B. degree, please visit the department’s website at:  
http://www.brown.edu/Departments/Judaic_Studies/concentration/ or visit:  
http://www.brown.edu/Administration/Registrar/concentration.html.

**Courses of Instruction**

Primarily for Undergraduates

1. (0010) *Judaism* (Religious Studies 1)  
Surveys the major practices, traditions, and beliefs of the Jews, with an emphasis on modern Jewish communities. How does a Jewish community shape its practices and beliefs against its own specific historical circumstances to create a coherent and meaningful religious system? What is “Judaism,” and how do scholars of religion explain and interpret it? M. L. Satlow.

2. (0020) *Freshman Seminars*  
*Jews and Whiteness* (American Civilization 15)  
Interested students should register for American Civilization 15.

9. (0090) *Modern Jewish History and Society* (History 96, Sociology 9)  
The study of Jews in their historical and contemporary communities of western and eastern Europe, the U.S., and Israel. Major themes include emancipation and assimilation; secularization and new religious expressions; the Holocaust and modern anti-Semitism; Zionism; immigration, ethnicity, and nationalism; family and intermarriage; education, Jewish culture, and politics. M. Mandel.

10. (0100) *Introduction to the Social Scientific Study of Jews*  
Through readings, films and fieldwork, course participants will learn how social scientists make use of interviews, participant-observation and discourse analyses to interpret Jewish culture and folkways. By looking through a Jewish lens at contemporary social theory and method, this class critically examines major themes in anthropology, sociology, psychology, and linguistics: race, nationalism, diaspora, kinship, gender, and modernity. M. Brink-Danan.

11-12. (0110-0120) *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 to a variety of cultural issues. Enrollment limited. Written permission required. R. ADLER BEN YEHUDA.

13, 14. (0130, 0140) 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: JS 12 or equivalent. Enrollment limited. Written permission required. R. ADLER BEN YEHUDA.

15. (0150) 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: JS 14 or equivalent. R. ADLER BEN YEHUDA.

17. (0170) Introduction to Biblical Hebrew
An intensive introduction to the fundamentals of biblical Hebrew grammar and vocabulary intended to prepare students to read biblical texts in the original language. For students with little or no prior knowledge of Hebrew. THE STAFF.

18. (0180) Readings in Biblical Hebrew
An introduction to the reading of biblical texts in Hebrew. Reading of selected texts from narrative, law, and poetry in the Hebrew Bible, with a few texts in post-classical Hebrew (the Dead Sea Scrolls and the Mishnah) introduced late in the semester. Intended for students who have completed JS 17; others should consult the instructor. THE STAFF.

26. (0260) The Bible as Literature (Comparative Literature 81, English 79, Religious Studies 88)
Explores how methods of literary analysis can be applied to the reading of narratives of the Hebrew Bible (in English translation). Also traces the influence of the Bible on Western literature by comparing the ways that writers have transformed biblical stories into new interpretive literary works. All readings in English. D. C. JACOBSON.

30. (0300) Israeli Literature in Hebrew
For students interested in reading selections of Hebrew fiction, drama, and poetry. Concentrates on major issues of the State of Israel, for example: the relationship between modernity and tradition, responses to the Holocaust, the Arab-Israeli conflict, and other cultural, social, and political issues. Israeli feature films are viewed and discussed. Conducted in Hebrew. Emphasizes strengthening Hebrew reading, writing, and speaking skills. Prerequisite: JS 15 or equivalent. D. C. JACOBSON.

31. (0310) Contemporary Israeli Literature in Translation (Comparative Literature 181)
Explores social, cultural, and political issues reflected in contemporary Israeli fiction, drama, and poetry: Jewish national and religious identities, responses to the Holocaust, tensions between Eastern and Western Jews, the Arab-Israeli conflict, and the search for meaning. All readings are in English translation. Israeli feature films with English subtitles are viewed and discussed. D. C. JACOBSON.

35. (0350) Jewish Fiction (Comparative Literature 142, English 79)
A comparative study of short stories and novels written in Russian, German, Yiddish, Hebrew, and English by 20th- and 21st-century Jewish writers in Eastern and Central
Europe and in America. Explores similarities and differences in the experiences of Jews related to a variety of themes: anti-Semitism, the Holocaust, tensions between modernity and tradition, relations between men and women. All readings in English. D. C. JACOBSON.

39. (0390) Holocaust Literature (English 123)
Readings in works of prose and poetry by victims and survivors of the Holocaust that portray experiences in ghettos, in concentration camps, and in hiding. Additional readings in works of the post-war era by survivors and their offspring. Discussion of the moral, psychological, religious, and cultural dimensions of the Holocaust and its ongoing impact on humanity. D. C. JACOBSON.

41. (0410) Talmud (Religious Studies 88)
Written from the first - seventh centuries CE, the Talmud (which runs to 20 volumes) contains law, lore, theological speculation, and complex argumentation. We will read a selection in depth and examine both traditional and modern critical (e.g. historical and literary) approaches to this fundamental text. No prerequisites; all texts in English translation. M. L. SATLOW.

45. Archaeology of Jerusalem
(Archaeology and the Ancient World 45)
Interested students should register for Archaeology and the Ancient World 45.

47. (0470) The Hebrew Bible and the History of Ancient Israel (Religious Studies 88)
An introduction to the historical-critical study of the Hebrew Bible and a reconstruction of the history of Israel to the end of the Persian period (332 B.C.E.). Topics include biblical source criticism; Israel’s obscure origins; reconstructing the settlement period; an imperial Israel under David and Solomon; institutions—law and authority, covenant, prophecy, temple cult, and priesthood. All readings in translation. No prerequisites. S. OLYAN.

53. (0530) The Beginning of Judaism (Religious Studies 63)
When and how was Judaism created? Traces the formation and evolution of Judaism from the rebuilding of the Temple and redaction of the Torah in the sixth century BCE to the enduring legacy of the Rabbis who flourished in the sixth century CE. Topics include the Dead Sea scrolls, apocalypticism, Philo, sectarianism, midrash, and Talmud. M. L. SATLOW.

61. (0610) American Jewish History (History 61)
By the mid-20th century, the U.S.’s Jewish population was one of the world’s largest and most important. In 1654, however, when 23 Jews landed in New Amsterdam, their position was far from assured. The history of American Jewish settlement is considered by exploring the interaction between the political, social, and cultural environment and successive waves of Jewish migrants. M. MANDEL.

64. (0640) History of the Holocaust (History 96)
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. Written permission required. M. MANDEL.

65. (0650) History of Zionism and the Birth of Israel (History 96)
Examines the history of the Zionist movement within the context of the history of European nationalism and as one of numerous Jewish political responses to rising antisemitism. Explores the ideological and political foundations of the Zionist movement until Israel’s
establishment as well as broader concerns of Jewish politics in the late 19th and early 20th centuries. M. MANDEL.

87. (0870) **Israeli Society** (Anthropology 87, Sociology 87)
Focuses on the social, economic, political, and immigration factors shaping the emergence of Israeli society. Traces the selective movement of the Jews to Palestine and the establishment of the state of Israel, the development of ethnic diversity, the changing Arab minority, and general patterns of socioeconomic development. Issues of ethnic-religious assimilation, social inequalities, segregation, ethnic intermarriage, social mobility, and religiosity are examined. M. BRINK-DANAN.

94. (0940) **Modern Jewish Philosophy** (Religious Studies 94, Religious Studies 168)
Explores how Jewish thinkers rethought traditional Jewish concepts in light of the intellectual, social, and political upheavals of modernity. Themes to be discussed include: belief in God, the authority of the Bible in the modern world, grounds for Jewish distinctiveness, and feminism’s impact on tradition. Thinkers to be studied include: Spinoza, Mendelssohn, Cohen, Rosenzweig, Buber, Levinas, Kaplan, Adler. M. GOTTSEGEN.

98. (0980) **Seminar in Judaic Studies**
(0980B) **God and Poetry** (English 79, Religious Studies 88)
Throughout recorded history, poetry has expressed a variety of religious experiences. In this seminar we read selections from the Hebrew poetic tradition (in English translation), including the biblical psalms, medieval sacred poetry, and modern poetry, and explore how the language of poetry can serve as a means to convey the nature of relations between humanity and God. Enrollment limited. Written permission required. D. C. JACOBSON.

(0980D) **Good and Evil** (Religious Studies 88)
Explores contemporary ethical problems including: the Holocaust and moral responsibility; Zionism and the Palestinian problem; the question of individual rights in an age of terror. Enrollment limited. Written permission required. M. GOTTSEGEN.

**Judaism and Christianity in Conflict** (Religious Studies 88)
Interested students should register for Religious Studies 88.

(0980Y) **Mysticism and Community in the Hasidic Tale** (Religious Studies 88)
An exploration of the model of a mystical community with a charismatic leader developed by the religious revival movement of Hasidism, as reflected in tales told by and about the Hasidic masters and their followers from eighteenth century Eastern European centers to contemporary centers in the U.S., including tales of Israel Baal Shem Tov, Nahman of Bratslav and the Habad dynasty. Enrollment limited. Written permission required. D. C. JACOBSON.

(0980H) **Origins of Jewish Philosophy** (Religious Studies 88)
Explores how Jewish philosophers conceptualized Biblical and Rabbinic concepts under Muslim rule. Themes to be discussed include: God’s existence, the relation between reason and revelation, the purpose of Jewish law, and the nature of Jewish religious dogma. Thinkers to be studied include: Sa’adiah, Ghazali, Halevi, Ibn Tufayl, Maimonides. M. GOTTSEGEN.

(0980M) **Secular Jewish Identities** (Religious Studies 88)
In the past century Jews have assimilated into the larger American society, leaving behind, in many cases, the religious definitions of being Jewish. Instead there have
been a variety of ways Jews have established modes of secular Jewish identification, which will be the focus of this course. Enrollment limited. Written permission required. L. DAVIDMAN.

(0980L) Women and Men in Film
This course will explore how Jews’ attempts to assimilate into the larger society of the United States affected the interactions between women and men over the course of the twentieth Century. We will use films as texts in order to analyze how changes in the wider society shaped, and were shaped by, Jew’s gendered dynamics. Enrollment limited. Written permission required. L. DAVIDMAN.

99. (0990) Topics in Judaic Studies

For Undergraduates and Graduates

100. The Shaping of the Classical World: Greeks, Jews, and Romans (History 100)
Interested students should register for the appropriate section of History 100.

101. Politics in Israel (Political Science 182)
Interested students should register for the appropriate section of Political Science 182.

103. Jews and Blacks: Fiction, Film and Theory (Modern Culture and Media 120)
Interested students should register for the appropriate section of Modern Culture and Media 120.

104. Estates of the Diaspora: Female Jewish Voices from Latin America (Portuguese and Brazilian Studies 150)
Interested students should register for the appropriate section of Portuguese and Brazilian Studies 150.

106. Hellenistic History: From Alexander the Great to the Roman Conquest (History 100)
Interested students should register for the appropriate section of History 100.

107. History of Zionism (History 117)
Interested students should register for the appropriate section of History 117.

108. History of the Holocaust (History 117)
Interested students should register for the appropriate section of History 117.

109. Between Allah and Jesus: The Mediterranean Jewish World(s) 1490-1940s (History 112, Portuguese and Brazilian Studies 160)
Interested students should register for History 112.

144. Synagogues, Churches, and Mosques (Archaeology and the Ancient World 144, Religious Studies 188)
Interested students should register for Archaeology and the Ancient World 144.

145. Qumran and the Dead Sea Scrolls (Archaeology and the Ancient World 145, Religious Studies 188)
Interested students should register for Archaeology and the Ancient World 145.

153. (1530) Exilic Responses to Crisis: Biblical Literature of the Sixth Century B.C.E.
The exile of Judah’s elite to Babylon elicited profound and conflicting literary responses. We will undertake a literary and historical analysis of a number of the most important works produced in response to the crisis of exile, including Jeremiah, Ezekiel, Second Isaiah,
Lamentations, Psalm 137, the Priestly Writing, and the work of the exilic deuteronomists. Enrollment limited. Written permission required. S. OLYAN.


192. (1970) Individual Study Projects
Section numbers vary by instructor. Please see the registration staff for the correct section number to use when registering for this course.


   Disability in Antiquity (Religious Studies 188, Ancient Studies 112)
   Interested students should register for Religious Studies 188.

   Early Jewish Prayer (Religious Studies 188)
   Interested students should register for Religious Studies 188.

   Films and Jewish American Life, A Study on Secular Values
   (American Civilization 190, History 198)
   Interested students should register for American Civilization 190.

   (1980E) Jewish Identities in the Twenty First Century (Religious Studies 188)
   This course will explore the numerous diverse ways contemporary American Jews are choosing to construct identities as Jews. We will cover such diverse topics as “queer” Jews, the search for a Jewish identity, the various denominations, the marginally affiliated and the unaffiliated. Students will do a major research paper based on interviews with Jews of various types. Enrollment limited. Written permission required.

   Jews and Judaism in the Greco Roman Mediterranean (Ancient Studies 112, Religious Studies 188)
   An advanced survey of the evidence for Jews and Judaism in the Greco-Roman Mediterranean (Egypt, Asia Minor, Rome, North Africa, etc.). Sources include synagogue mosaics, burial and donor inscriptions, personal documents, and references in non-Jewish writers, including Christians. Also considers what theoretical models best enable us to reconstruct the identity, practices and beliefs of the ancient diaspora Jewish communities. Enrollment limited. Written permission required. R. S. KRAEMER.

   (1980Q) Jews and Muslims (History 198)
   This course considers interactions between Muslims and Jews in various historical settings from the early Islamic world, to Medieval Spain, to contemporary Europe and the Middle East. The goal is to move beyond simplistic histories of interfaith utopia, Islamic persecution, and Zionist domination to consider the complexities of ethno-religious interaction in a variety of social, cultural, economic and political contexts. Enrollment limited. Written permission required. M. MANDEL.

   (1980Z) Jews, Race, and Ethnicity (Religious Studies 188)
   Whether Jews are “white” has been debated in many places in various historical eras. For example, in the 1800’s others characterized Jews as non-white, and Jews identified themselves as a racial grouping. This course explores the social contexts and factors that shape how and whether Jews identify as a racial grouping and the social meaning of whiteness in these contexts. Enrollment limited. Written permission required. L. DAVIDMAN.
Life Cycle (Religious Studies 188)
An interdisciplinary examination of the ways that Jews have understood and marked their life-cycles. Faculty from across Judaic Studies will participate, leading us not only to a richer understanding of Jewish life-cycles, but also to a deeper appreciation of Judaic Studies as a field of study. This serves as the Judaic Studies capstone seminar, although non-concentrators are also welcome. Enrollment limited. Written permission required. M. L. SATLOW.

Maimonides Seminar (Religious Studies 188)
In this course, we will undertake a close reading of Moses Maimonides’ philosophical masterpiece, The Guide of the Perplexed. Among the topics that we will explore are: the origin of the universe, the nature of prophecy, proofs for the existence of God, the reasons for religious commandments, and the problem of evil. Enrollment limited. Written permission required. M. GOTTSEGEN.

Memoirs and Memory: The Individual Experience of Modern Jewish Life (History 197)
Interested students should register for History 197.

(1980C) Problems in Israelite Religion and Ancient Judaism (Religious Studies 188)
A series of topics in Israelite religion and ancient Judaism which are of current scholarly interest are explored in a seminar setting. Students are encouraged to read widely and pursue individual research interests. The course assumes a basic knowledge of biblical literature and scholarly criticism. Enrollment limited. Written permission required. S. OLYAN.

(1980G) Spinoza (Religious Studies 188)
A detailed study of Spinoza’s metaphysics, ethics and politics with attention paid to contemporary debates in Spinoza scholarship. Enrollment limited. Written permission required. M. GOTTSEGEN.

Examines how the interactions between traditional Jewish culture and the large societies have shaped the ideologies and realities of women’s roles within Jewish societies for 2500 years. Emphasizes the modern period, but begins with images of women in the Hebrew Bible and other Jewish texts. The course is interdisciplinary, drawing on perspectives from sociology, anthropology, history, and feminist theory. Enrollment limited. Written permission required.

Center for Language Studies
Members of the Center for Language Studies (www.brown.edu/Departments/CLS/) share intellectual interests in issues of learning and teaching second languages and their cultures. The mission of the center is to facilitate contact and cooperation among second language faculty across individual department boundaries. CLS aims to promote research in the field of language study, to develop experimental or innovative language teaching materials, and to design new curricular configurations which stress the central position and interdisciplinary nature of language study. The center supports the application of emerging technologies to language learning, it seeks to improve the professional development of graduate and undergraduate teaching assistants, and it strives to forge new links within the second language community as a whole.
The Center for Language Studies is dedicated to improving the study of languages at Brown University, to extending the field of second language study, and to increasing the collaboration between language specialists and faculty and students in other disciplines. Such collaboration may be pursued: 1. through the development of interdisciplinary programs (e.g., the “Languages Across the Curriculum” program); 2. through collaborative grants and research projects; 3. through lectures and conferences involving professionals in language education; and 4. through community-oriented initiatives and projects. Individuals interested in creating new opportunities for language study are invited to share their ideas with us.

Brown University has excellent technological facilities for the study of second languages. The Language Resource Center (www.brown.edu/Departments/LRC/), located on the second floor of the Thomas J. Watson, Sr., Center for Information Technology building, comprises a multimedia computer laboratory with both Mac and PC workstations, a video/DVD viewing room, a faculty and staff work room and a materials storage and distribution area. All of the rooms in the LRC are connected to the campus computer network, and all can access satellite television transmissions as well. The center’s facilities and staff enable language faculty to develop instructional computer software, interactive audiotape, videotape and web-based audio materials, as well as the projection of second language films and the reception of foreign television broadcasts via satellite.

Courses in American Sign Language, Arabic, Hindi/Urdu and in English for International Teaching Assistants are offered through the Center for Language Studies. Students may take four semesters of American Sign Language courses, studying both the expressive and receptive skills and the culture of the Deaf community. Eight semesters of Modern Standard Arabic are offered each year through the Center for Language Studies. Beginning with the fifth semester, students work with classical Arabic and Islamic texts, as well as with materials from contemporary media. Each year six semester-long courses in Hindi/Urdu provide students the opportunity to begin or continue to study the languages and cultures of South Asia. The introductory courses are designed to meet the needs of both heritage and nonheritage learners, and the advanced course is often tailored to address the research interests of students in either Hindi or Urdu. The center administers the Program in English for International Teaching Assistants. Graduate students whose first language is not English and who will be teaching undergraduates must demonstrate their English proficiency. For those who need to improve their English, the ITA Program offers five noncredit English As a Second Language courses. Other international graduate students or visiting scholars interested in strengthening their spoken skills may enroll as space allows.

**Courses of Instruction**

**American Sign Language**

Primarily for Undergraduates

10-20. (0100-0200) *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 through Deaf community events. Year-long course. Enrollment limited. Written permission required.

A. BELOZOVSKY.
American Sign Language III
Explores sociolinguistic aspects of ASL within the Deaf cultural context. Focuses on classifiers, linguistic principles related to dialogues and storytelling techniques (e.g., role-shifting, narrative structure). Deaf culture is experienced by attending events and by voluntary service to the Deaf community. Prerequisite SI 20 or placement interview. Enrollment limited. Written permission required. A. BELOZOVSKY.

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 SI 30 or placement interview. Enrollment limited. Written permission required. A. BELOZOVSKY.

Arabic
Primarily for Undergraduates
10-20. (0100-0200) First-Year Arabic
Builds basic listening, speaking, reading, and writing skills in Modern Standard Arabic, introducing the language in its cultural environment. Six contact hours per week, with an emphasis on grammar and communication, plus written, audio, and video assignments outside of class. Enrollment limited. Written permission required. THE STAFF.

30-40. (0300-0400) Second-Year Arabic
Expands students' proficiency in Modern Standard Arabic; develops listening, speaking, reading and writing skills at the intermediate level through extensive use of various texts and multimedia; promotes a better understanding of Arabic cultural traditions. Five contact hours weekly, plus written, audio, and video assignments outside of class. Enrollment limited. Written permission required. THE STAFF.

50, 60. (0500, 0600) Third-Year Arabic
Offers comprehensive training in listening, speaking, reading, and writing Modern Standard Arabic with grammar review as needed. Broadens students' perspective on Arabic culture with selections from the classical and modern traditions of Arabic writing and various art forms. Includes basic conversation in colloquial Arabic. Enrollment limited. Written permission required. THE STAFF.

70, 80. (0700, 0800) Fourth-Year Arabic
Guided reading, writing and research for advanced Arabic students. Prerequisite: AB 60. Written permission required. THE STAFF.

English for Internationals
Primarily for Graduates
210. (2100) Academic Discourse for Internationals
This course develops the English skills of first-year international graduate students who are preparing to be teaching assistants. Students improve their listening comprehension and fluency in conversational interactions typical of academic settings. Areas of spoken English that are addressed include pronunciation, stress patterns, intonation, vocabulary, and structure. No course credit. B. GOURLAY.
220. (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. No course credit.  
M. H. Scott.

230. (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 an institution of higher education, where they are responsible for expressing and explaining complex information and ideas in English. No course credit.  
B. Gourlay.

240. (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. No course credit.  
M. H. Scott.

250. (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. No course credit.  
B. Gourlay.

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**Hindi-Urdu**

Primarily for Undergraduates

10-20. (0100-0200) **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. A. K. Koul.

30-40. (0300-0400) **Intermediate Hindi-Urdu**  
A continuation of HN 10–20, which is a prerequisite. 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. The Staff.

For Undergraduates and Graduates

108. (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: HN 30–40. May be repeated once for credit. A. K. KOUL.

**Latin American Studies**

The Center for Latin American Studies (CLAS) facilitates the study of Latin America in a multidisciplinary perspective. An undergraduate concentration was first approved in 1973. The concentration was later incorporated into the Center for Latin American Studies, established in November 1984. The charge of the center emphasizes research and teaching, and also includes community outreach for public education.

James N. Green (History and Portuguese and Brazilian Studies) is director of the center and R. Douglas Cope (History) is advisor to concentrators. Susan Hirsch is the assistant to the director and directs the day to day operations of the center. The center office is located at 111 Thayer St., Box 1866, telephone: (401) 863-2106. www.watsoninstitute.org/clas

**Undergraduate Program**

For the standard interdepartmental concentration program leading to an A.B. degree please visit: [http://www.brown.edu/Administration/Registrar/concentration.html](http://www.brown.edu/Administration/Registrar/concentration.html). Because the courses that are available tend to change from year to year, students should consult the Course Announcement Bulletin, or the concentration advisor.

**Graduate Studies**

Brown offers no advanced degree in Latin American Studies, but our faculty work closely with interested graduate students in other departments such as Hispanic Studies, History, Economics, American Civilization, Anthropology, Sociology, Political Science, Portuguese and Brazilian Studies, and the A.M. in Development Studies. Information about these degrees may be obtained directly from these departments or programs.

**Courses of Instruction**

**For Undergraduates and Graduates**

151. (1510) *Selected Topics in Latin American Studies*

Provides a Latin American perspective on a range of topics appropriate for advanced students already familiar with Latin American peoples, languages, literatures, and/or cultures. In English, with possibly some discussion and readings in Spanish and/or Portuguese. Enrollment limited. Written permission required.


For Latin Americans Studies concentrators writing senior projects or honors theses.

*Individual Thesis Preparation*

Written permission required. R. D. COPE.
Program in Literary Arts

Professors Eustis, Gander, Harper, Maso, Rahman, Steinbach, Vogel, Waldrop, Wideman, Wilson, Wright; Associate Professor Evenson (Chair); Assistant Professors Field, Gladman; Lecturer Nelson; Adjunct Professor Coover.

Undergraduate Program

For a complete description of the standard concentration program leading to the A.B. degree in Literary Arts, please visit the department’s website at:  
http://www.brown.edu/Departments/Literary_Arts/ or  
http://www.brown.edu/Administration/Registrar/concentration.html.

Graduate Program

Master of Fine Arts

Acceptance of candidates for the master of fine arts degree in literary arts is determined by the staff of the Graduate Program in Literary Arts. Candidates take eight courses, four of which are in writing. The other four courses supplement the major objective of completing a substantial manuscript in fiction, poetry, drama or electronic work, which is submitted as a thesis. Normally, work for the degree is done during a two year period, though on rare occasions it may be completed in a shorter time.

Courses of Instruction

Primarily for Undergraduates

11. (0110) Workshops in Creative Writing I
Workshops are designed for students who have little or no previous experience in writing literary texts in a particular genre or in interdisciplinary manners. Students will be introduced to a variety of technical and imaginative considerations through exercises, readings and discussions. A genre is not open to those students who have taken intermediate or advanced workshops in that genre.

   (0110A) Fiction I
   Enrollment limited. Written permission required. S/NC. J. E. HOWARD.

   (0110C) Playwriting I
   Enrollment limited. Written permission required. S/NC.

   (0110B) Poetry I
   Enrollment limited. Written permission required. S/NC.

21. (0210) Workshops in Creative Writing II
Designed for students who have some experience in writing literary texts. Introductory workshops in respective genre is desirable but not required. Most sections require readings from published work in addition to exercises and workshop discussions of works in progress. Students must submit a separate writing sample for each section to which they wish to apply. All writing samples are due at 68–1/2 Brown Street between 10 am and 4 pm on the first day of the semester. Permission will be issued by the instructor after the manuscripts have been reviewed. A student may take LR 21 up to six times for credit, but no more than three sections may be in one genre or interdisciplinary area.
(0210D)  *Electronic Writing II*
Enrollment limited. Written permission required. S/NC.

(0210A)  *Fiction Writing II*
Enrollment limited. Written permission required. S/NC.

(0210C)  *Playwriting II* (Theatre, Speech and Dance 12)
Enrollment limited. Written permission required. S/NC.

(0210B)  *Poetry Writing II*
Enrollment limited. Written permission required. S/NC.

31.  (0310)  *Creative Writing Special Topics Workshops*
Designed for students who have some experience in writing literary texts. A special topic may focus on a particular genre or cross the boundaries of genre. Students must submit a separate writing sample for each section to which they wish to apply. All writing samples are due at 68–1/2 Brown Street between 10 am and 4 pm on the first day of the semester. Permission will be issued by the instructor after the manuscripts have been reviewed. A student may take LR 31 up to three times for credit, but may not repeat a particular special topic. Enrollment limited. Written permission required.

For Undergraduates and Graduates

101.  (1010)  *Advanced Creative Writing Workshops*
Workshops provide students with a forum for extended practice of the art of writing. Intermediate workshop in respective genre is desirable but not required. Students must submit a separate writing sample for each section to which they wish to apply. All writing samples are due at 101 Brown Street on the first day of the semester. Permission will be issued by the instructor after the manuscripts have been reviewed. A student may take LR 101 up to six times for credit, but no more than three sections may be in one genre or interdisciplinary area.

(1010A)  *Advanced Fiction*
Enrollment limited. Written permission required. S/NC. T. FIELD, R. GLADMAN, M. STEINBACH, J. WIDEMAN.

(1010C)  *Advanced Playwriting* (Theatre, Speech and Dance 102)
Enrollment limited. Written permission required. S/NC. B. S. METZGAR, P. VOGEL.

(1010B)  *Advanced Poetry*
Enrollment limited. Written permission required. S/NC. M. S. HARPER, P. G. NELSON.

(1010E)  *Advanced Screenwriting*
Enrollment limited. Written permission required. S/NC. A. RAHMAN, E. C. WILSON.

*Advanced Translation* (Comparative Literature 171)
Interested students should register for Comparative Literature 171. Enrollment limited. Written permission required. S/NC. F. GANDER, B. K. WALDROP.

*Introduction to Literary Translation* (Comparative Literature 171)
Interested students should register for Comparative Literature 171.

111.  (1110)  *Advanced Creative Writing Special Topics Workshops*
Workshops provide students with a forum for extended practice of the art of writing within the context of a special topic that may focus on a particular genre or cross the boundaries of genre. Students must submit a separate writing sample for each section to which they wish to apply. All writing samples are due at 68–1/2 Brown Street on the first day of the
semester. Permission will be issued by the instructor after the manuscripts have been reviewed. A student may take LR 111 up to six times for credit, but may not repeat a particular special topic.

(1110A) Adaptation to the Screen
Each student will adapt a short story, novel or article into a full-length, 120-page screenplay. Five Hollywood adaptations will be studied, from original text, to screenplay, to film. Enrollment limited. Written permission required. S/NC. E. C. WILSON.

(1110B) American Political Drama
What exactly is an American political play? We’ll examine issues of personal freedom, community rights, and the positioning of public power. Are we different from the myths of America? Political theater enables us to see our moral choices and aspirations. From Aristophanes to Suzan-Lori Parks, we will look at various political texts while we attempt to create new approaches to the writing of American Political Theater. Enrollment limited. Written permission required. S/NC. A. RAHMAN.

(1110C) Cave Writing
An advanced experimental writing workshop using the immersive virtual reality (VIR) environment of Brown’s “cave” and involving writers, composers, designers and programmers working as a team or within teams. Enrollment limited. Written permission required. S/NC. R. COOVER.

(1110E) Innovative Narrative
Stereotexts: a project-driven writing workshop focused on innovative multidimensional approaches to narrative. Projects using two or more media such as print and digital formats or texts and sound, filmed text, hyperfictions, narratives with multiple voices or even multiple spaces, text installations, fictions that put contraries into play, etc., are all welcome. Writing samples and project descriptions required. Enrollment limited. Written permission required. S/NC. C. MASO.

(1110F) Narrative Strategies

(1110G) Narrative Voice: Fact and Fiction (Africana Studies 104)
Enrollment limited. Written permission required. S/NC. J. E. WIDEMAN.

(1110H) Plasticity and Playwriting
This course examines the relationship between the script and the visual components that make up a theatrical production. In this Brown/RISD combined class we will work together to examine what defines the stage environment, how writing and production design combine to form a unified playworld. We will develop drawings into three dimensional models as design and script evolve. Student writers and designers will work together on short projects; designers will work from a script in progress, and writers will create short new works motivated by stage environments designed by classroom participants. Enrollment limited. Written permission required. S/NC. P. A. VOGEL.
(1110J) The Short Story
Experiments in writing; extensive reading in traditional and experimental collections of fiction in shorter forms. Writing samples of no more than ten pages should be left at 68 1/2 Brown Street on the first day of the semester. Enrollment limited. Written permission required. S/NC. M. STEINBACH.

(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. Enrollment limited. Written permission required. S/NC. P. G. NELSON.

115. (1150) Special Topics Workshop/Seminar in Literary Arts
Special topics workshop/seminars combine elements of the writing workshop with elements of a seminar on literary issues. Courses under this rubric will require students to read, discuss and write creative and critical work. Students must submit a separate writing sample for each section to which they wish to apply. The writing sample is due at the first class session. Permission will be issued by the instructor after the manuscripts have been reviewed.

(1150A) Ecopoetics in Practice (Environmental Studies 170)
This seminar primarily asks how literary production necessarily reflects assumptions about our relationships to the “natural” world. Equal part research and creative projects, we will explore areas of artistic production (in any media or genre) opened up through close readings of deep ecology texts and environmental aesthetics. Students from all artistic and scientific disciplines encouraged to apply. Enrollment limited. Written permission required. S/NC. T. L. FIELD.

(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. Enrollment limited. Written permission required. S/NC. T. L. FIELD.

(1150D) Three Bake-Offs (Comparative Literature 141)
Close readings and investigations of three traditions within theater’s history; each section will be followed by the writing of plays that make conscious use of the devices and styles that are hallmarks within those traditions. Enrollment limited. Written permission required. S/NC. P. A. VOGEL.

(1150C) Unpublishable Writing
Before becoming the dominant form of book-marking, “the codex” meant a tree stump where criminals were tied. After examining conventions of western print culture, we will explore literary practices which are performative, sculptural, multimedia, or out-scale. Through the course is primarily for creative projects, critical research will also be expected. Enrollment limited. Written permission required. S/NC. T. L. FIELD.

120. (1200) Writers on Writing (English 191)
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. B. K. EVENSON.
122. (1220) Reading, Research, and Writing About Literature

(1220D) The Bible as Literary Source (Comparative Literature 81)
A survey of the English Bible and its presence in English and American literature. Students will learn to notice and account for Biblical echoes in a wide variety of writings from several cultures. S/NC. B. K. WALDROP.

(1220C) The Cantos in their Environment (Comparative Literature 143)
A reading of Pound’s Cantos, with attention to their origin and developments, their background and their influence. S/NC. B. K. WALDROP.

(1220A) History and Practice of English Versification
An opportunity to study through reading and imitating poems that represent a variety of poetic eras and traditions. S/NC. B. K. WALDROP.

(1220B) Samuel Beckett (Comparative Literature 141, English 171)
This course will mark the centenary of the author by reading and discussing a range of works from Samuel Beckett’s substantial output of fiction, poetry, drama and translation. S/NC. B. K. WALDROP.

123. (1230) Seminars in Reading, Research, and Writing about Literature
Designed for students who have an interest in reading, researching and writing about literature, in a seminar environment, under the instruction of a practitioner in the discipline. Students may repeat courses provided that the topics are different.

(1230C) Poetry Newly in Translation in English (Comparative Literature 143)
Readings and considerations of poetry newly in translation or newly re-issued, including works by Inger Christensen, Cesare Pavese, Jacques Roubaud, Vincente Huidobro and other singular and single texts by individual contemporaries. Enrollment limited. Written permission required. C. D. WRIGHT.

(1230D) Poetry, Mind, World (Comparative Literature 143)
How does the poetic mind negotiate between an account of itself and an account of the world? How have poets used landscape as a model of mind, as an erotics, as elegy? Merleau-Ponty, Hardy, Houle, Alexander, Dewdney, Hass, D’Aquino, Audubon and others. Presentation, several short essays, a poem, and one final essay. Enrollment limited. Written permission required. F. GANDER and S. BERNSTEIN.

130. (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.

131. (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.

141. (1410) Honors/Capstone Workshops in Creative Writing
Workshops provide a forum for students working on their theses or capstone projects. See instructor for permission during the semester before undertaking the course.

(1410A) Fiction Honors
Enrollment limited. Written permission required. S/NC. M. STEINBACH.
(1410C) Playwriting Honors
Enrollment limited. Written permission required. S/NC. A. RAHMAN.

151. (1510) Honors/Capstone Independent Study in Creative Writing
Provides tutorial instruction for students completing their theses or capstone projects. Typically taken by honors or capstone candidates in their final semester. See instructor to seek permission during the semester before undertaking the course of study.

Primarily for Graduates

201. (2010) Graduate Workshops in Literary Arts
Graduate-level practice of the art: writing workshops, ordinarily limited to graduate students in Literary Arts, with emphasis on a better understanding of creative process, strategies and forms. A student may take LR 201 up to six times for credit, but no more than four may be in one genre or interdisciplinary area.

(2010A) Graduate Fiction
Written permission required. S/NC. B. K. EVENSON, R. GLADMAN, C. MASO, J. WIDEMAN.

(2010C) Graduate Playwriting
Written permission required. S/NC. P. A. VOGEL, E. C. WILSON.

(2010B) Graduate Poetry
Written permission required. S/NC. F. GANDER, B. K. WALDROP, C. D. WRIGHT.

211. (2110) Graduate Workshops in Special Topics
Literary Arts 211 workshops provide students with a forum for extended practice of the art of writing within the context of a special topic. These courses are ordinarily limited to graduate students in Literary Arts.

(2110A) Theatrical Styles on Stage and Page
An investigation of theatrical forms and for collaborations among actors, directors and playwrights. This course is limited to participants in the MFA programs in acting, directing and playwriting. Written permission required. S/NC. B. S. METZGAR.

223. (2330) 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.

231. (2310) Graduate Independent Studies in Literary Writing
Offers tutorial instruction oriented toward some significant work in progress by the graduate student.

241. (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.

Mathematics

Professors Abramovich, Banchoff, Cole, Daskalopoulos, Goncharov, Goodwillie, Hoffstein, Kapouleas, Lichtenbaum, Oh, Pipher (Chair), Schwartz, Silverman, Strauss, Treil; Associate Professors Braverman, Brock, Landman, Professors Emeriti Accola, Browder, Federer, Fleming, Harris, Kallin, Lubin, Nomizu, Rosen, Stewart, Wermer.
For further information about the Mathematics faculty and programs, visit http://www.math.brown.edu.

Undergraduate Programs

Concentrators in mathematics should complete the prerequisites by the end of their sophomore year. Those interested in graduate study in mathematics are encouraged to take Mathematics 113, 114, 126, 141, and 154. Students who have not had a course at the Honors level (Mathematics 35 or 54) should consider taking Mathematics 101 before Mathematics 113. Students are encouraged to take advanced courses whenever their preparation qualifies them to do so.

For a complete description of the following standard concentration programs leading to the bachelor’s degree please visit:
http://www.brown.edu/Administration/Registrar/concentration.html.

- Mathematics-Computer Science
- Mathematical Economics
- Mathematics-Physics
- Geology-Physics/Mathematics

Graduate Program

The graduate program in mathematics is primarily a Ph.D. program planned to prepare especially able students for a career of basic research and college training. These students may also earn the A.M. or Sc.M.

The department offers nine semesters of basic courses: Differentiable Manifolds (211), Real Function Theory (221, 222), Complex Function Theory (225, 226), Topology (241, 242), and Algebra (251, 252). Students are required to qualify in 211, 221, 225, 241, and 251, and in at least three of the other four. “Qualifying” ordinarily means taking the course and doing sufficiently well, but students who have done the equivalent of one or more of these courses may qualify by passing diagnostic examinations in September. Students are admitted to candidacy for the Ph.D. degree on the basis of qualification in the basic areas and other evidence of readiness for mathematical research. Typically, a student completes at least six basic courses in the first year and fulfills the remaining basic course requirements in the second year.

Beyond admission to candidacy, the requirements of a candidate for the Ph.D. are to:

1. Obtain “qualification credit” in three courses beyond the basic eight.
2. Pass a topics examination. This is an oral examination in an advanced subject, and is ordinarily to be satisfied by November of the third year. It may well occur before admission to candidacy.
3. Acquire some teaching experience.
4. Demonstrate proficiency in one foreign language, ordinarily chosen from French, German and Russian.
5. Write a doctoral thesis. This must be original mathematical research of sufficient quality to be published in a recognized mathematics journal. Thesis research is done under the direction of a faculty member with whom the student has close scientific contact. Doctoral candidates present their completed thesis to the department in a final public oral examination.

For the master’s degree, the department requires completion of at least four courses at the graduate level (see General Regulations). A student may satisfy requirements for the master’s degree either by writing an acceptable thesis (which, in contrast to the Ph.D. thesis, may be purely expository) or by taking a greater number of graduate level courses.
Mathematical activity of the department includes formal and informal seminars on a wide range of topics conducted by the faculty and students. Prominent scholars are invited to lecture on their recent research at a weekly colloquium. The department has extensive computer facilities.

The mathematics library is part of the Sciences Library. Its collection is one of the finest anywhere and provides complete facilities for research. It is the policy of the department to acquire all important new publications in mathematics. Many out-of-print books and journals are recorded on microfilm and are available for general use. The University provides electronic access to MathSciNet and a variety of mathematics journals online.

Other courses of interest to mathematics students are offered by the Division of Applied Mathematics, the Department of Computer Science, and the Department of Physics.

Courses of Instruction

Primarily for Undergraduates

1. (0010) First Year Seminar
   The course description will vary from semester to semester, depending on the faculty member and topic. Enrollment limited. Written permission required. S/NC.

5, 6. (0050, 0060) Analytic Geometry and Calculus
   A slower-paced introduction to calculus for students who require additional preparation. Presents the same calculus topics as MA 9, together with a review of the necessary precalculus topics. Students successfully completing this sequence are prepared for MA 10. Prerequisite: for MA 5, written permission; for MA 6, MA 5 or written permission. S/NC.

7. (0070) Calculus with Applications to Social Science
   A one-semester 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 MA 9. Written permission required.

9. (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. MA 9 and 10 or the equivalent are recommended for all students intending to concentrate in the sciences or mathematics. Lectures plus one 80-minute section arranged. S/NC.

10. (0100) Introductory Calculus, Part II
   A continuation of the material of MA 9 including further development of integration, inverse trigonometric and logarithmic functions, techniques of integrations, and applications. Other topics include infinite series, power series, Taylor’s formula, introduction to differential equations, and numerical methods. MA 9 and 10 or the equivalent are recommended for all students intending to concentrate in the sciences or mathematics. Lectures plus one 80-minute section arranged.
17. (0170) Advanced Placement Calculus
Begin with a review of fundamentals of calculus and includes infinite series, power series, paths, and differential equations of first and second order. Placement in this course is determined by the department on the basis of high school AP examination scores or the results of tests given by the department during orientation week. May not be taken in addition to MA 10.

18. (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. Prerequisite: MA 10 or 17.

19. (0190) Advanced Placement Calculus (Physics/Engineering)
Covers roughly the same material and has the same prerequisites as MA 17, but is intended for students with a special interest in physics or engineering. The main topics are: calculus of vectors and paths in two and three dimensions; differential equations of the first and second order; and infinite series, including power series and Fourier series. The extra hour is a weekly problem session.

20. (0200) Intermediate Calculus (Physics/Engineering)
Covers roughly the same material as MA 18, 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. Prerequisite: MA 10, 17, or 19.

35. (0350) Honors Calculus
A third-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.

42. (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.

52. (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. MA 52 or 54 is a prerequisite for all 100-level courses in Mathematics except MA 126. Prerequisite: MA 10, 17, or 19. May not be taken in addition to MA 54.

54. (0540) Honors Linear Algebra
Linear algebra for students of greater aptitude and motivation, especially mathematics and science concentrators with a good mathematical preparation. Matrices, linear equations, determinants, and eigenvalues; vector spaces and linear transformations; inner products; Hermitian, orthogonal, and unitary matrices; and Jordan normal forms. Provides a more extensive treatment of the topics in MA 52. Prerequisite: MA 18, 20, or 35.
For Undergraduates and Graduates

101. (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: MA 18, 20, or 35. MA 52 or 54 may be taken concurrently. Most students are advised to take MA 101 before MA 113.

104. (1040) **Fundamental Problems of Geometry**  
Topics are chosen from euclidean, projective, and affine geometry. Highly recommended for students who are considering teaching high school mathematics. Prerequisites: MA 52, 54 or permission of the instructor.

106. (1060) **Differential Geometry**  
The study of curves and surfaces in 2- and 3-dimensional Euclidean space using the techniques of differential and integral calculus and linear algebra. Topics include 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.

111. (1110) **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.

112. (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.

113, 114. (1130, 1140) **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 100-level course in analysis (MA 101 or MA 126) before attempting MA 113.

126. (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: MA 18, 20, or 35. This course does not require MA 52 or 54.

127. (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 100-level course in Mathematics or Applied Mathematics, or permission of the instructor.

141. (1410) **Combinatorial 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.

153. (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. MA 153 is required of all students concentrating in mathematics.

154. (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: MA 153. May be repeated for credit.

156. (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: MA 153 or written permission.

158. (1580) *Cryptography* (Applied Mathematics 194)
Topics include symmetric ciphers, public key ciphers, complexity, digital signatures, applications and protocols. Math 153 is not required for this course. What is needed from abstract algebra and elementary number theory will be covered. Prerequisite: MA 52 or MA 54.

161. (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.).

162. (1620) *Mathematical Statistics*
Central limit theorem, point estimation, interval estimation, multivariate normal distributions, tests of hypotheses, and linear models. Prerequisite: MA 161 or written permission.

181. (1810) *Special Topics in Mathematics*
Topics in special areas of mathematics not included in the regular course offerings. Offered from time to time when there is sufficient interest among qualified students. Contents and prerequisites vary. Written permission required.

182. (1820) *Special Topics in Mathematics*
Topics in special areas of mathematics not included in the regular course offerings. Offered from time to time when there is sufficient interest among qualified students. Contents and prerequisites vary. Written permission required.

197. (1970) *Honors Conference*
Collateral reading, individual conferences.

Primarily for Graduates

201. (2010) *Differential Geometry*
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.
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205, 206. (2050, 2060) 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.

211. (2110) Introduction to Manifolds
Inverse function theorem, manifolds, bundles, Lie groups, flows and vector fields, tensors and differential forms, Sard’s theorem and transversality, and further topics chosen by instructor.

221, 222. (2210, 2220) Real Function Theory (Applied Mathematics 211)
(2210) Point set topology, Lebesgue measure and integration, Lp spaces, Hilbert space, Banach spaces, differentiability, and applications.

221, 222. (2210, 2220) Real Function Theory (Applied Mathematics 212)
Point set topology, Lebesgue measure and integration, Lp spaces, Hilbert space, Banach spaces, differentiability, and applications.

225, 226. (2250, 2260) 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.

237, 238. (2370, 2380) Partial Differential Equations (Applied Mathematics 223)
(2370) 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.

241, 242. (2410, 2420) Topology
An introductory course with emphasis on the algebraic and differential topology of manifolds. Topics include simplicial and singular homology, de Rham cohomology, and Poincaré duality.

251, 252. (2510, 2520) 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.

253, 254. (2530, 2540) 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: MA 251.

263, 264. (2630, 2640) Probability (Applied Mathematics 263)
(2630) Probability (Applied Mathematics 264)
Introduces probability spaces, random variables, expectation values, and conditional expectations. Develops the basic tools of probability theory, such fundamental results as the weak and strong laws of large numbers, and the central limit theorem. Continues with a study of stochastic processes, such as Markov chains, branching processes, martingales,
Brownian motion, and stochastic integrals. Students without a previous course in measure theory should take MA 221 (or AM 211) concurrently.

271. (2710) Advanced Topics in Mathematics
May be repeated for credit.

272. (2720) Advanced Topics in Mathematics
May be repeated for credit.

291, 292. (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.

299. (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. No course credit.

Medieval Studies

Professors Bonde (History of Art and Architecture), Bossy (Comparative Literature), Bryan (English), Harvey (Religious Studies), Martinez (Italian Studies), Monroe (University Library), Papaioannou (Classics), Pucci (Classics), Remensnyder (History), Russom (English), Satlow (Judaic Studies), and Vaquero (Hispanic Studies).

Undergraduate Program

For information regarding the Medieval Studies concentration program leading to the A.B. degree, please visit: http://www.brown.edu/Administration/Registrar/concentration.html or http://www.brown.edu/Departments/Medieval_Studies/.

The program hosts the Rhode Island Medieval Circle, a series of lectures on Medieval topics open to the Rhode Island community. In collaboration with the University of Connecticut and Yale University, the program sponsors an annual Graduate Student Medieval Conference, held in rotation at the participating institutions.

Courses of Instruction

Primarily for Undergraduates

36. (0360) Medieval Perspectives
The Middle Ages, conventionally the thousand years from 500 to 1500 C.E. in Western, Central, and Eastern Europe, were a period of great inventiveness and radical innovation in human society. This seminar is directed by faculty from the Program in Medieval Studies and is designed to provide insight into selected aspects of these formative centuries. Full participation in class discussion of assigned readings is expected of each student. STAFF.

41. Islamic Art† (History of Art and Architecture 41)
Interested students should register for History of Art and Architecture 41.

62. (0620) Muslims, Jews, and Christians in Medieval Iberia
(History of Art and Architecture 47, Portuguese and Brazilian Studies 96, Hispanic Studies 62, University Courses 62)
The cultural diversity of medieval Spain and Portugal is proclaimed by their Christian cathedrals, Islamic palaces, and Jewish synagogues. The three distinct cultures that
produced these buildings lived together for centuries in medieval Iberia, sometimes in peace, sometimes not. This *convivencia* of Jews, Muslims, and Christians will be examined from the perspectives of literature, art, architecture, archaeology and history. M. VAQUERO and S. BONDE.

For Undergraduates and Graduates

192. (1970) *Independent Study*
Tutorial instruction on an approved topic in Late Antique and/or Medieval cultures, supervised by a member of staff. Section numbers vary by instructor. Please see the registration staff for the correct section number to use when registering for this course. May be repeated once for credit.

197. (1990) *Honors Thesis*
Independent research and writing on a topic of special interest to the student, under the direction of a faculty member. Required of candidates for honors. Permission should be obtained from the Director of the Program in Medieval Studies.

198. (1990) *Honors Thesis*
Independent research and writing on a topic of special interest to the student, under the direction of a faculty member. Required of candidates for honors. Permission should be obtained from the Director of the Program in Medieval Studies.

*Modern Culture and Media*


Undergraduate Concentrations

For a complete description of the following standard concentration programs leading to the bachelor’s degree, please visit [http://www.brown.edu/Administration/Registrar/concentration.html](http://www.brown.edu/Administration/Registrar/concentration.html).

- Art–Semiotics
- Modern Culture and Media
- Modern Culture and Media–German
- Modern Culture and Media–Italian
- Semiotics–French

Graduate Program

The department offers a Ph.D. program in Modern Culture and Media. There is no terminal Master’s program, but students who enter the doctoral program only with an undergraduate degree earn an M.A. on their way to the Ph.D.

Doctor of Philosophy

The department is concerned with the study of media of technical reproduction whose historical appearance has characterized modernity—film, video, digital media, photography, sound, and print insofar as it is connected to mass dissemination. These are
not understood in a narrow sense, for a departmental premise is the centrality of media to all modern and contemporary cultural practices.

The Ph.D. prepares students to engage in rigorous and innovative scholarship and teaching in the theory, history, and critical analysis of one or more media, in ways that encompass diverse cultural contexts and historical periods, and within methodological frameworks that include awareness of modern and contemporary textual, cultural and social theory. Plans of study are individualized, based on the student’s own particular areas of interest. Students may emphasize the scholarship of one medium or of several media and their interrelationships, but their coursework and exams will also include a component in textual, cultural, and/or social theory.

Courses: A minimum of 13 courses are required, exclusive of any taken solely in fulfillment of the foreign language requirement. For students entering the program with a B.A., coursework is normally completed in the first three years of the program—six courses are taken in the first year, four in the second year and three in the third year. The student then works on the dissertation during the fourth and fifth year. Students who enter the program with an M.A. take the same number of courses per semester, but they may apply to accelerate their program and eliminate the final year of coursework.

Plans of study are individualized, based on the student’s own particular research and teaching areas within the broader fields of Modern Culture and Media, but at least one graduate course offered by the Department of Modern Culture and Media is required in each of the following three areas:

Theory (A course in theories of textuality, subjectivity, culture, the social, and/or a specific medium in relation to any of these. Normally fulfilled by MC 210, 211 or 212.)

Textual Analysis (A course that addresses a single medium or genre conceived as a textual object, a mode of cultural production, or a form. Normally fulfilled by MC 230 or 231.)

Historical/Cultural Locations (A course that assists students in understanding how the production, circulation, and reception of media forms operate within and across specific social contexts, periods, geocultural sites, and/or communities. Normally fulfilled by MC 250 or 251.)

Foreign Language Requirement: All candidates must demonstrate reading/research competency in one foreign language pertinent to the student’s research interests. Competency in an additional language or languages may be required if advanced research in a student’s particular areas of interest demands it. Competency in a foreign language may be demonstrated in any one of the following three ways:

a. Passing a translation exam administered by MCM faculty.

b. Earning a grade of B or better in a 100-level; or higher course offered by a Foreign Language department, for which the professor attests that teaching and reading assignments were preponderantly in that language. (This course will count towards the 13 required for the degree only if its substantive context coheres with the student’s scholarly concerns.)

c. Passing a graduate reading course offered by a Foreign Language department.

Qualifying Review: After completing eight courses (six in the case of those entering the program with an M.A.), the student undergoes a qualifying review. Faculty of the department Graduate Committee review reports by instructors, the student’s progress, and a sample of work submitted by the student (normally a seminar paper). It then confers with
the student for a 90-minute discussion, which gives the student the opportunity to communicate with the committee. This review covers both the student’s work at Brown to that point as well as plans and conceptualizations for future directions. The latter includes possible preliminary examination fields. The student is then certified to continue studies. Assuming normal progress in coursework, those who entered the program with a B.A. are now awarded an M.A. in Modern Culture and Media.

**Preliminary Examination:** The Preliminary Examination is a three-hour oral exam taken after completing all other requirements. Assuming normal progress towards the degree, a student entering the program with an undergraduate degree takes it at the end of the sixth semester, and a student entering the program with an M.A. takes it at the end of the fourth semester. Before that and in consultation with the department Director of the Graduate Studies, the student will define three fields for the preliminary exam and will constitute a Prelims committee to administer the exam. The committee must be MCM or MCM-affiliated faculty, and designate a chairperson of the committee. The student designated its chairperson.

Taken together, the fields should delimit the academic area(s) in which the student is preparing to teach, as well the scholarly context(s) for the student’s projected research. Since their plans of study and specializations vary, there is room for a great deal of variety among different candidates in defining their fields. However, the configuration of the fields for all students will be as follows:

- **Field 1:** in the history and theory of a medium.
- **Field 2:** in modern cultural theory.
- **Field 3:** an elective field which is designed to provide a comparative perspective.

Before the exam, the student provides two documents that specify her or his fields and provide starting points for the exam: (1) A core bibliography of approximately 40 key scholarly books or the equivalent composed of articles and chapters, for each of the three fields. In addition, the core bibliographies of Fields 1 and 3 will include a comparable body of pertinent media texts. All of these will be chosen in consultation with the committee and the final lists must be approved by the committee chairperson. (2) A Fields Essay of 20–25 pages, also written in consultation with the committee. This essay will broadly indicate the kinds of research questions and scholarly discussion in which the student is preparing to intervene. It should articulate a broad but knowledgeable understanding of the scholarly area(s) in which the student plans to teach and do research. It will indicate key current arguments and problematics that structure scholarly debate in that area. It should explain the coherence of the conjunction of the three fields as a focus in relation to established academic fields.

**Dissertation:** Upon successful completion of the Preliminary Examination, the student constitutes a dissertation committee which normally consists of three members, at least two of whom must be MCM or MCM-related faculty. The candidate submits a dissertation proposal to this committee, which then meets with the candidate. Once the proposal is approved, the candidate proceeds to work on the dissertation.

For additional information please visit the department’s website at: [http://www.brown.edu/Departments/MCM/](http://www.brown.edu/Departments/MCM/)
Courses of Instruction

Primarily for Undergraduates

10. (0100) Screens and Projections: Modern Media Cultures
An introduction to the key forms that constitute modern media and cultural practice--photography, film, television, video, and digital media. We will examine the material construction of these objects and work to produce a critique accounting for those representational forms that embodies theoretical concepts, approaches and strategies. Readings in Benjamin, Tagg, Mulvey, Feuer, Dienst, Manovich, etc. M. A. DOANE.

15. (0150) Text/Media/Culture: Readings in Theory
An introduction to the theoretical foundations of contemporary cultural criticism. We will study theories of language and representation, textuality, narrative and ideology, the image and modernity/postmodernity that have been crucial to understanding modern media texts: literature, photography, film, television and digital media. Readings will range from Marx, Nietzsche, and Freud to Barthes, Fanon, Irigaray and Habermas. E. F. ROONEY.

23. (0230) Digital Media
This course introduces students to the study of digital media. Moving from its popular mass forms to alternative artistic installations, from cyberpunk fiction and movies to SMS text messaging, we will study the aesthetics, politics, history and theory of digital media. Special attention will be paid to the tensions between the ways technology actually operates and the ways we perceive it, in relation to social/cultural formations (gender, sexuality, race, global flows). W. H. CHUN.

24. (0240) Television Studies
Introduces students to the rigorous study of television, concentrating on televisual formations (texts, industry, audience) in relation to social/cultural formations (gender, generational, and family dynamics; constructions of race, class, and nation; consumerism and global economic flows). That is, this course considers both how television has been defined and how television itself defines the terms of our world. L. R. JOYRICH.

25. (0250) Visuality and Visual Theories
Theories of visual representation in such traditional media as painting, in photography, and in emergent digital media (VR, robotics, etc.). Connects problems of representation to issues of power, information, subjectivity. These media are read as historically constituted and specific to particular cultures through complex forms of mediation. J. M. SILVERMAN.

26. (0260) Cinematic Coding and Narrativity
Examination 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. Emphasis on recent theories of cinematic representation. Students become conversant with specific elements and operations of the cinematic apparatus (e.g. camera, editing, soundtrack) and the production of discursive meanings. STAFF.

71. (0710) Introduction to Filmmaking (Visual Art 71)
The basic technology of film practice, including use of cameras, simple lighting, sound recording, and editing. Students produce a series of short, non-sync films. No previous experience or skills are required. Demonstrations and studio work. Prerequisites (two of the following): MC 10, 15, 23, 24, 25, 26, 111 or equivalent. Application required and should be obtained from MCM office. Enrollment limited. Written permission required. S/NC. L. THORNTON.
72. (0720) Intermediate Filmmaking (Visual Art 72)
Continues work that began in MC 71, introducing more sophisticated production techniques, including sync sound. Screenings will emphasize films that reside outside of conventional cinema. Students complete a group project and a 5–10 minute sync sound film. Demonstrations, discussions and studio work. Prerequisite: MC 71. Application required and should be obtained from MCM office. Enrollment limited. Written permission required. S/NC. L. THORNTON.

73. (0730) Introduction to Video Production (Visual Art 73)
Provides the basic principles of video technology and independent video production through a cooperative, hands-on approach utilizing small format video (Mini DV). Emphasizes video as a critical intervention in social and visual arts contexts. Prerequisites (two of the following): MC 10, 15, 23, 24, 25, 26, 112 or equivalent. Application required and should be obtained from MCM office. Enrollment limited. Written permission required. S/NC. A. G. CO kes.

74. (0740) Intermediate Video Production (Visual Art 74)
Expanded principles of independent video production utilizing small format video (Mini DV). Emphasizes video as a critical intervention in social and visual arts contexts. A major project (10–20 minutes) and a class presentation concerning your project are required. Prerequisite: MC 73. Application required and should be obtained from MCM office. Enrollment limited. Written permission required. S/NC. A. G. CO kes.

75. (0750) New Media Art Production (Visual Art 75)
Explores emerging media technologies (blogs, camera phones, podcasts, social software, video blogs) as tools or platforms for artistic experimentation. Readings in the history and pre-history of New Media art, screenings, and online research inform independent and collaborative art projects. Prerequisites: at least one MC course; MC 23 recommended. Enrollment limited. Written permission required. S/NC. M. A. TRIB E.

78. (0780) Sound for Image (Visual Art 180)
A production course which examines the role of sound in film and video. Works of exemplary artists/filmmakers. Audio works for filmic projects. Prerequisites: MC 71 or MC 73. Application required and should be obtained from the MCM office. Enrollment limited. Written permission required. S/NC. STAFF.

80. (0800) Freshman Seminars in Modern Culture and Media†
Enrollment limited. Written permission required.

90. (0900) Undergraduate Seminars in Modern Culture and Media
Topics vary from year to year and instructor to instructor. In each section, enrollment is limited to 20. Written permission given after the first meeting. Prerequisite: one previous MC course (MC 10, 15, 23, 24, 25, 26, 111 or equivalent). May be repeated for credit. Enrollment limited. Written permission required.

For Undergraduates and Graduates

111. (1110) The Theory of the Sign
A survey of three theorists: Louis Althusser, Jacques Derrida, and Michel Foucault. Readings range from Althusser’s Reading Capital to Foucault’s History of Sexuality. Discussion focuses on these figures as they emerge from/intervene in the field of semiotics, with particular attention to the developments in each oeuvre and the differences among them. One course from the MCM introductory sequence is prerequisite. E. F. ROONEY.
113. (1130) *Literature and Society* (English 190)
Examines several of the most important ways in which the relation between literature and society has been theorized. At the heart of all attempts to think about this relationship is the problem of mediation. Does art reflect what is out there, produce what we think is real, or operate in some middle ground? Theorists include: Marx, Benjamin, Barthes, Althusser, Foucault, Baudrillard, Geertz, Clifford, Jameson, Anderson, Butler, Scott, and Chow. L. TENNENHOUSE.

120. (1200) *Special Topics in Modern Culture and Media*
Topics vary from year to year and instructor to instructor. In each section, enrollment is limited to 50. Written permission given after the first meeting. Prerequisite: one previous Modern Culture and Media course. May be repeated for credit.

- (1200D) *African Cinema* (Africana Studies 120)
  Sub-Saharan African cinema, 1960-present. Cinematic and narrative strategies in the context of postcolonial African and international film histories with primary emphasis on narrative films. Course themes include: anticolonial resistance and nationalist ideologies, oral aesthetics and cinematic style, internal political critique (e.g. gender), third cinema and Africa, postcolonial identities and the problematics of modernity/postmodernity, cultural resistance and media globalization. Enrollment limited to 50. Written permission required. DP P. ROSEN.

- (1200G) *Cinema and Stardom: Image/Industry/Fantasy*
  Focuses on the star within the ‘machinery’ of Hollywood cinema: how stars function in the film industry, within cinematic and extra-cinematic texts, and at the level of individual fantasy, and desire. Including screenings of films which exploit, foreground, or critique star images, also considers the ideological implications and cultural consequences of stardom. Enrollment limited to 50. Written permission required. L. R. JOYRICH.

- (1200Z) *Contemporary Chinese Cinema: Classics and Controversies* (Comparative Literature 141)
  Examines well-known examples of contemporary Chinese film (1980s to the present) in context of the ideological, aesthetic, and cultural politics debates around them, and explores how certain films attain the status of ‘classics.’ Directors to be studied include those from mainland China, Taiwan, Hong Kong, and the Chinese diaspora. Enrollment limited to 50. Written permission required. R. CHOW.

- (1201B) *Ethnography, Travel, Film*
  A study of documentary and narrative films that thematize and reenact the West’s contacts with its cultural others. Although the focus is on the three exemplary authors (Joris Ivens, Chris Marker, Jean Rouch), a wide range of cinematic practices are examined. Readings from Clifford, Trinh, Taussig, Said, Foster, Burgin, and others. Enrollment limited to 50. Written permission required. J. M. SILVERMAN.

- (1201A) *Literature and Society* (Comparative Literature 181, English 190)
  Examines several of the most important ways in which the relation between literature and society has been theorized. At the heart of all attempts to think about this relationship is the problem of mediation. Does art reflect what is out there, produce what we think is real, or operate in some middle ground? Theorists include: Marx, Benjamin, Barthes, Althusser, Foucault, Baudrillard, Geertz, Clifford, Jameson, Anderson, Butler, Scott, and Chow. Enrollment limited to 50. Written permission required. L. TENNENHOUSE.
150. (1500) Senior Seminars in Modern Culture and Media  
Preference given to seniors in any of the MCM concentrations. In each section, enrollment is limited to 20. Written permission will be given after the first meeting. Prerequisite: two Modern Culture and Media courses. May be repeated for credit.

(1500D) Contemporary Film Theory  
Major arguments in film theory since 1960s semiology contextualized by both contemporaneous intellectual approaches and filmmaking. Some key issues: cinematic specificity/hybridity, the politics of form and style, subjectivity/spectatorship, gender/sexuality, postmodern ‘media,’ digital theory, etc. Readings from figures such as Baudry, Bordwell, Cubitt, Deleuze, Doane, Elsaesser, Gunning, M. Hansen, Heath, Jameson, Manovich, Metz, Mulvey, L. Williams, Willemen, Wollen, etc. Enrollment limited to 20. Written permission required. P. ROSEN.

(1500X) Middlemarch and the Sopranos  
The world of The Sopranos has been called ‘a postmodern Middlemarch, whose inhabitants’ moral and spiritual development (or devolution) unfolds within a parochial social milieu.’ This course offers a comparative analysis of Eliot’s 1871-72 novel and HBO’s (continuing) television drama, juxtaposing these two very popular, very powerful serializations in formal, thematic, ideological and narrative terms. Enrollment limited to 20. Written permission required. E. F. ROONEY.

(1500S) Publicity and Surveillance  
Investigates the converging technologies and practices of publicity and surveillance. Considers phenomena such as webcams, face recognition technology and networked art, as well as concepts such as enlightenment, paranoia, and exhibitionism. Theoretical, historical and legal reading. Enrollment limited to 20. Written permission required. W. H. CHUN.

(1501K) Seeing Queerly: Queer Theory, Film, Video (Gender Studies 150)  
While cinema has typically circumscribed vision along (hetero)sexually normative lines, can film also empower viewers to see ‘queerly’? How do we, as sexual subjects (gay and straight), ‘look’ in the cinema, in both senses of the word? This course addresses questions of sexuality and representation as it considers both ‘mainstream’ and ‘alternative’ productions. Enrollment limited to 20. Written permission required. L. R. JOYRICH.

(1501Q) The Close-Up: Theory and Practice  
An examination of the use of the close-up in film and theory, from the ‘primitive’ cinema to IMAX and from Münsterberg to Aumont and Deleuze. Special attention to the way in which the close-up has been associated insistently with the face and its heightened cultural significance, with the advent of a ‘cinematic language,’ and with questions of cinematic space and scale. Enrollment limited to 20. Written permission required. M. A DOANE.

170. (1700) Seminars in Production  
Topics vary from year to year and instructor to instructor. In each section, enrollment is limited to 20. Written permission given after the first meeting. May be repeated for credit.

Approaches to Media Form (Visual Art 180)  
A production seminar for advanced students, organized around the successful completion of a major film or video project. Screenings and discussions will emphasize alternative approaches to media practice. Students will lead presentations.
on their own work. Intermediate level production class required. Application required and should be obtained from MCM office. May be repeated for credit. Enrollment limited to 20. Written permission required. S/NC. L. THORNTON.

(1700N) Open Source Culture: Art, Technology, Intellectual Property (Visual Art 180)
Explores the tension between appropriate artist practices and intellectual property laws, using open source software as a model for cultural production. Assignments include readings, research, presentations, and art projects. Prerequisites: at least one MC course; MC 23 or 75 recommended. Application required and should be obtained from MCM office. Enrollment limited to 20. Written permission required. M. A. TRIBE.

(1700D) Problems of Documentary (Visual Art 180)
An advanced seminar for students of video and/or film production. Focuses on the critical discussion and production of documentary. A major project (10-20 minutes) and in-class presentations of work-in-progress required. Readings on the theory and practice of the form and selective screenings augment the presentation of student work. Application required and should be obtained from MCM office. May be repeated for credit. Enrollment limited to 20. Written permission required. S/NC. A. G. COKES.

(1700I) The Radiophonic and Radio (Visual Art 180)
A production seminar which examines the radiophonic and its antecedents through the production of radio plays and other audio works. Enrollment limited to 20. Written permission required. S/NC. STAFF.

(1700M) Techniques of Surveillance (Visual Art 180)
Investigates surveillance as a subject and as a means of production in various cultural forms, including literature, cinema, reality television, and media art. Readings, screenings, and online research inform independent and collaborative art projects. Prerequisites: at least one MC course; MC 23 or 75 recommended. Enrollment limited to 20. Written permission required. M. A. TRIBE.

197. (1970) Directed Research: Modern Culture and Media

198. (1990) Honors Thesis/Project in Modern Culture and Media

Primarily for Graduates

210. (2100) Studies in Cultural and Social Theory

(2100A) Contemporary Feminist Theory and the Problem of the Subject (English 290)
Recent feminist theory represents the persistence of identity politics and the problem of the subject in various forms: through the “intersectionality” of race, class and gender; in the idioms of psychoanalysis; in terms of the “queer” subject. We will examine these often conflicting theories and the subjects of feminism they invoke with particular attention to the modes of address. E. F. ROONEY.

(2100B) Criticism and Culture in Marxist Theory (English 290)
Major texts in 20th century Western Marxist cultural and literary theory, from Lukács to the present. Focus on problems in the conception and reading of culture and cultural texts. Where appropriate, consideration of interaction with other major theoretical frameworks (e.g., aesthetics, phenomenology, semiotics, psychoanalysis, feminism, media studies, postcolonial criticism, globalization theory, etc.) P. ROSEN.
(2100D) Freud and Deleuze: The Schreber Material
J. M. SILVERMAN.

Mimeticism/Cross-Cultural Representation (Comparative Literature 282)
Interested students should register for Comparative Literature 282.

Walter Benjamin and Modern Theory (Comparative Literature 283, English 290)
Interested students should register for Comparative Literature 283.

211. (2110) Studies in Textual and Critical Theory
Figuring Fetishism
Beginning with early European imaginings of the African fetish and their traces in Enlightenment thinking, the seminar will focus on the ways fetishism figures in the theories of Marx and Freud. We will also look at contemporary theorists who find fetishism compelling. Among the questions to be asked: is there something particularly theoretical about fetishism? E. WEED.

(2110B) Freud and Lacan (English 290)
This course will stress the relations between language, subjectivity and sexuality and the feminist use and/or critique of psychoanalytic concepts. Familiarity with semiotic and poststructuralist theory required. Additional readings in Laplanche, Weber, Zizek, Gallop, Butler. M. A. DOANE.

Narrative Theory (English 290)
Interested students should register for EL 290.

212. (2120) Studies in Media Theory

(2120A) Media Archaeology
Provides an intellectual history of ‘Media Archaeology,’ focusing on contributions by the ‘SophienstraBe’ departments of Humboldt University in Berlin and on the importance of Marshall McLuhan and Michel Foucault, amongst others, to its development. Readings by Friedrich Kittler, Wolfgang Erst, Cornelia Vismann. Written permission required. W. H. CHUN.

Theories of Photographic Image (English 290)
Examines the history of attempts to assimilate the photographic image to a theory of representation. Will analyze theories of photography, chronophotography, film with respect to issues of time, subjectivity, historicity, the archive. Will also address the rise of the digital image and its potential threat to photography. Readings in Kracauer, Benjamin, Bourdieu, Barthes, Batchen, Marey, Bazin, Aumont, and others. M. A. DOANE.

230. (2300) Studies in Styles, Movements, and Genres

Film and the Real (English 276)
Traces the historical variety of appeals to the ‘real’ in film including the actuality of the 1890s, the Classical Hollywood Text, neorealism, documentary, hyperrealism, etc. We will explore theories of realism and the persistence of the idea that the cinema has a special relation to the ‘real.’ Films by Lumière, Edison, Flaherty, Rossellini, Wiseman, Marker, McEIlwee, Warhol, Akerman, etc. M. A. DOANE.
(2300A) Real TV
This course will investigate the construction of reality on U.S. television, considering not only specific reality genres (news and ‘magazine’ programs, crisis coverage, docudrama, talk and game shows) but the discursive and representational modes that define the ‘reality’ of commercial television as a whole. Issues include: ‘liveness’; social relevance; therapeutic discourse; TV personalities; media simulation; independent television; and new technologies/realisms. L. R. Joyrich.

(2300B) Television, Gender and Sexuality
A consideration of how television produces and reproduces constructions of gender and sexuality through its institutional form (mapping relations between public and private, domestic and social, inside and outside), narrative patterns (circulating family romances, linking gender and genre), and spectatorial relations (variously addressing viewers as consumers and commodities, familial and sexed subjects). L. R. Joyrich.

231. (2310) Studies in Textual Formations
Romantic Orientalism (English 256)
Interested students should register for English 256.

245. Exchange Scholar Program
No course credit.

250. (2500) Studies in the History of Media
Film and Modernity
An examination of films and film movements from 1895 through the 1930s in relation to the rise of modernity, modernization, and modernism. We will analyze the films through the lenses of theories of technology, temporality, the avant-garde, and the emergence of mass culture. Readings in Gunning, Bergson, Simmel, Kracauer, Benjamin, Jameson, Hansen, and others. M. A. Doane.

251. (2510) Studies in Nationality and Transnationality
(2510A) Art Cinema as Transnational Textual Strategy
In the 1960s, Antonioni, Bergman, Buñuel, Fassbinder, Fellini, Godard, Resnais, etc. achieved international, global, prominence by bending mainstream narrative cinema conventions in the name of original national and artistic subjectivities. But such ‘art cinema’ has pervaded film history, from the 1920s (e.g. German Expressionism) to the present (e.g. New Iranian Cinema). Investigations of art cinema’s textual strategies, conceptual underpinnings, and historical functions. P. R. Rosen.

(2510B) Cinema, State and Global Violence
Theoretical and political conceptions of state and global violence posed against the history of cinema, as representational apparatus and as institution. Special attention to the establishment of film as a global medium through World War I, and current work around ‘globalization,’ ‘postmodern media culture,’ etc. Readings from sociopolitical theorists (e.g. Weber, Arendt, Angabem, Hardt and Negri, Foucault) and cinema/media scholars (e.g. Virilio, Prince, L. Williams, Miller). P. R. Rosen.

National Cultures/Global Media Spheres
Contemporary cultural processes and media practices are often described as being implicated in ‘globalization,’ but this linkage may well predate the present. This course examines theoretical, historical, and critical texts that conceive of media culture through notions of globalization, with attention to the status of nation, media publics, and cultural identity in a transnational context. Readings drawn from figures
such as B. Anderson, Appadurai, Bhabha, Dirlik, Habermas, Hardt and Negri, Jameson, Mattelart, Naficy, S. Sassen, Spivak, etc. P. R. ROSEN.

297. (2980) Independent Reading and Research in Modern Culture and Media
Individual reading and research for doctoral candidates. Not open to undergraduates.

299. (2990) Thesis Preparation
No course credit.

Music

Professors Baker, Bergeron, Shapiro, Steinberg, Subotnik, Titon; Associate Professors Josephson, Perlman, Rovan, Winkler; Assistant Professor Gooley; Senior Lecturers Jodry, McGarrell, Phillips; Teaching Associates Cole, Harjito, Obeng, Steinbach.

The courses of study in music permit areas of specialization in theory and composition, musicology, ethnomusicology, and computer music and multimedia. Students are encouraged to become involved in all areas of the music curriculum including performance. Each student develops a program of study in consultation with a faculty advisor.

Undergraduate Program
For a complete description of our concentration program, please see our website:
www.brown.edu/music or
http://www.brown.edu/Administration/Registrar/concentration.html.

Graduate Programs
For detailed information about our Master’s and Ph.D. programs, please see our website:
www.brown.edu/music.

Courses of Instruction
Primarily for Undergraduates
1. (0010) Introduction to Western Music
Following an introduction to basic music notation and theory, we examine selected works by Bach, Bartok, Beethoven, Brahms, Chopin, Debussy, Ellington, Gershwin, Handel, Haydn, Mahler, Monteverdi, Mozart, Schoenberg, Schubert, Stravinsky, Verdi, Wagner, and others. While historical and social contexts are discussed, the emphasis is on learning to listen to music. D. JOSEPHSON, R. R. SUBOTNIK.

5. (0040) World Music Cultures (Africa, America, Europe, Oceania)
A survey of a variety of musical styles from Africa, the Americas, Europe, and Oceania outside the Western art music tradition. Introduces these musics in their historical, social, and cultural context, in an attempt to understand them in their own theoretical systems and aesthetic frameworks. J. T. TITON.

6. (0041) World Music Cultures (Middle East and Asia)
Introductory survey of several of the world’s musical traditions, with an emphasis on East, South, and Southeast Asia. Expands powers of musical appreciation through lectures, guided listening, and active participation in music-making. Focuses on traditional music
and its relations to dance and theatre, and to its social, religious, and historical contexts, but also includes popular music and the effects of modernization. No prerequisites. M. A. PERLMAN.

8. (0060) **Bluegrass, Country, and Old-Time Music†**
Folk songs, fiddle tunes, lined-out and shape-note hymnody, bluegrass, and country music, mainly in Appalachia and the South. Historical development, musical design, and how the musics construct working-class and regional identities, religious experience, gender, and rural values, with attention to commodification and the rise of the national country music industry. J. T. TITON.

9. (0061) **Blues**

11. (0200) **Computers and Music**
An introduction to the field of computer music, focusing on the use of electronics and computers in music composition, analysis and synthesis of sound, and related topics. Investigates basic acoustics, perception of sound, the history of music technology, and musical applications. No prerequisites, though some experience with computers and some knowledge of music is very helpful. Significant hands-on experience with computer music systems. Enrollment limited. Written permission required. J. W. ROVAN.

21. (0021) **First Year Seminars**
A seminar designed for students interested in music who are in their first year at Brown. No special musical background is required. All students welcome. In order to preserve an intimate environment for dialogue, and to promote active participation of all students, enrollment will be limited.

**The Changing Broadway Musical**
Can the history of the musical on (or near) Broadway provide useful insight into changing American values? Starting with *Show Boat* (1927), this course offers a multi-faceted analysis of one significant musical from each subsequent decade. Students choose the examples and direct the analysis of shows from the 1980’s, 1990’s, and if time permits, the 2000’s. Enrollment limited. Written permission required. R. R. SUBOTNIK.

**Reading Jazz**
This course will explore the musical aesthetics of jazz in texts about its world. Students will listen to music and read poetry, fiction, autobiography and criticism to investigate techniques (including improvisation, rhythm, timbre and articulation), which authors such as Langston Hughes, Ralph Ellison, Charles Mingus, Stanley Crouch and Jack Kerouac employed to describe and support a creative community. Enrollment limited. Written permission required. M. R. MCGARRELL.

30. (0050) **Masters of Music**
The study of the life and work of a major composer. Composers recently studied: Bach, Beethoven, Brahms, Coltrane, Haydn, Mozart, Stravinsky. Two-hour listening session per week.
36. (0030)  History of Jazz
The development of jazz from its roots to the present. Focuses on the study of style types (including New Orleans style, early piano jazz, swing, bebop, and cool jazz) and their major instrumental and vocal exponents. Jazz as a social phenomenon is studied in relation to contextual aspects of folk, popular, and art music traditions in the U.S. M. R. McGarrell.

37. (0071)  Opera
A study of opera from Monteverdi to the present. Also examines the concepts of opera as drama, the literary and dramatic scores for librettos, and writings on the changing aesthetic principles underlying opera during the past four centuries. D. Gooley.

39. (0059)  Jazz Masters
Examines recordings, scores, films, autobiographies, interviews, oral histories, and other primary source materials as well as biographical, theoretical, and analytical readings to study the life and work of Duke Ellington. His career as performer, band leader, and composer is examined in the context of his predecessors and contemporaries. Tutorials in the rudiments of theory, score reading, and ear training are available. Prerequisite: MU 36 or permission of instructor. M. R. McGarrell.

40. (0400)  Introduction to Music Theory
An introduction to musical terms, elements, and techniques, including notation, intervals, scales and modes, triads and seventh chords, modulation, melody writing and harmonization, analysis, and composition. Ear-training and sight-singing are included. For students with some musical training. Enrollment limited. Written permission required. L. F. Jodry, A. M. Cole.

50. (0500)  Thinking About Music
Designed for students who can read music, this course introduces ways of conceptualizing our musical experience. Many different repertories --from Beethoven to the blues--form the basis for explorations of musical time, gesture, and color, and raise questions of expression and meaning. How is our understanding of music shaped by language, rhetoric, performance? Non-concentrators welcome. Enrollment limited. Written permission required. K. Bergeron.

55, 56. (0550, 0560)  Theory of Tonal Music
For students with keyboard ability and knowledge of the rudiments of music. Prerequisite to the music concentration. Intensive study of tonal harmony, voice leading; analysis, ear training, sight-singing, keyboard exercises. Students interested in MU 55 must take a placement test administered during the first regular class meeting. MU 55 is prerequisite to MU 56. Enrollment limited. Written permission required. A. M. Cole, J. M. Baker, P. S. Phillips, and M. F. Steinbach.

57, 58. (0670, 0671)  Old-Time String Band
Half course each semester. Instruction and ensemble playing. Music taught by ear. American (southern Appalachian Mountain) traditional music on violin (fiddle), 5-string banjo, mandolin, and guitar. May be repeated for credit. Enrollment limited. Written permission required. S/NC. Half credit. J. T. Titon.

59, 60. (0680, 0681)  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 teaching associates, and performances are required. Enrollment is by audition. Restricted to skilled instrumentalists. May be repeated for credit. Written permission required. S/NC. Half credit. P. S. Phillips.
61, 62. (0600, 0601) **Chorus**
Half credit each semester. A practical study of choral literature, techniques, and performance practice from Gregorian chant to the present, offered through rehearsals, sectionals, and performance. Reading and listening assignments may be required. Enrollment is by audition, based on voice quality, experience, and music-reading ability. May be repeated for credit. Written permission required. S/NC. Half credit. L. F. JODRY.

63, 64. (0610, 0611) **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. Restricted to skilled instrumentalists. May be repeated for credit. Written permission required. S/NC. Half credit. P. S. PHILLIPS.

65, 66. (0620, 0621) **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. May be repeated for credit. Written permission required. S/NC. Half credit. M. R. MCGARRELL.

67, 68. (0640, 0641) **Ghanaian Drumming and Dancing Ensemble**
Half credit each semester. A dynamic course in the performance of contemporary drumming and dancing styles of West Africa. Students learn to perform diverse ceremonial and recreational music from Ghana through rehearsals, discussions, readings and listening. No prerequisites. May be repeated for credit. Enrollment limited. Written permission required. S/NC. Half credit. M. K. OBENG.

69, 70. (0650, 0651) **Javanese Gamelan**
Half credit each semester. Instruction, rehearsals, and performances in the gamelan music of Java, on instruments owned by the department. No prerequisites. May be repeated for credit. Enrollment limited. Written permission required. S/NC. Half credit. M. A. PERLMAN.

71, 72. (0810, 0820) **Applied Music Program: Instruction in Vocal or Instrumental Music**
Half credit each semester. Restricted to skilled musicians. Openings are limited. Enrollment and re-enrollment is by audition and jury. Lessons are given by teaching associates in the Applied Music Program. A fee is charged for enrollment. Copies of the Applied Music Program Guidelines giving detailed information are available online.

73, 74. (0830, 0840) **Applied Music Program: Instruction in Vocal or Instrumental Music**
Half credit each semester. Restricted to skilled musicians. Openings are limited. Enrollment and re-enrollment is by audition and jury. Lessons are given by teaching associates in the Applied Music Program. MU 71–72 is prerequisite to 73–74. Copies of the Applied Music Program Guidelines giving detailed information are available online.

75, 76. (0630, 0631) **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. May be repeated for credit. Written permission required. S/NC. Half credit. M. R. MCGARRELL.
77-78. Middle Eastern Music Ensemble
Half credit each semester. Instruction, rehearsals, and performances in repertoire from several music cultures of the Middle East. String players, percussionists, musicians interested in playing the 'ud (11-stringed fretless lute) or nay (end-blown bamboo flute) are welcome. Players of other instruments may also be considered. Written permission required. S/NC. Half credit.

79, 80. Afro-Latin Jazz Ensemble (Africana Studies 79) (Africana Studies 80)
Half credit course each semester. Consisting of percussion, bass, piano, guitar, and wind instruments, this ensemble studies and performs various traditions of world music that are fused with jazz. The curriculum is divided between rehearsal, lecture, discussion of the repertory’s history and aesthetics. Prerequisite: MU 76 or permission of the instructor. May be repeated for credit. Enrollment limited. Written permission required. Half credit.

81, 82. MEME Ensemble
An ensemble devoted to free improvisation with new media. Experimental approaches to sound and focused listening techniques are explored with acoustic instruments, live electronics, real-time video, together with networked improvisation, and more. By audition. Enrollment limited. Written permission required. S/NC. Half credit. J. W. ROVAN.

86. Introductory Topics in Interactive Performance and Composition
May be repeated for credit. Enrollment limited. Written permission required.

91. (1500) Medieval and Renaissance Music
A history of western European music to Monteverdi’s Orfeo (1607), with emphasis on the analysis of individual works supported by reading and listening. Among the major composers studied are Byrd, Dufay, Josquin, Machaut, and Palestrina. Strongly recommended for freshmen and sophomores considering a concentration in music. Limited to students who can read music. L. F. JODRY.

92. (1510) Baroque and Classic Music
A history of western music from Monteverdi’s Orfeo (1607) to Beethoven’s Ninth Symphony (1824). Prerequisite: MU 55 or equivalent. D. JOSEPHSON.

93. (1520) Romantic and Modern Music
A history of European and American art music from Beethoven’s Ninth Symphony to the Postmodernists. Prerequisite: MU 55 or equivalent. R. R. SUBOTNIK.

95. (0081) Jazz and American Culture
Explores jazz in relation to American history, discussing how economics, war conditions, regional differences and race relations shaped the music and its public reception. With readings from A. Baraka, L. Levine, R. Ellison, L. Erenberg, E. Lott, G. Early, S. DeVeaux and others, we address how jazz embodies social and political values or expresses national character. Open to non-musicians. Music proficiency preferred but not required. D. GOOLEY.

For Undergraduates and Graduates

101. (1010) Advanced Musicianship I
Training in advanced musicianship skills relevant to Western art music from the 16th century to the present, including sight singing, ear training, score reading, keyboard harmony, improvisation, and musical transcription. Prerequisite: MU 56 with a grade of B, or permission of the instructor. Half credit. A. M. COLE.
102. (1011) Advanced Musicianship II
Continuation of MU 101. Prerequisite: MU 101 or permission of the instructor. Half credit.
A. M. Cole.

103. (1020) Modal Counterpoint
An introduction to contrapuntal techniques of the 16th century with particular attention to
the music of Lassus and Palestrina. Two hours per week of ear training and sight singing.
Written permission required. G. M. Shapiro.

104. (1030) Tonal Counterpoint
The contrapuntal techniques of the 18th and 19th centuries with emphasis on music of
Bach. Written exercises in and analysis of all styles including fugue. Prerequisite: MU 56
or equivalent. Written permission required. G. M. Shapiro.

107. (1040) Advanced Music Theory I
A study of chromaticism and advanced tonal techniques, with a focus on 19th-century
European art music. Assignments will include exercises in analysis and composition and
in-class presentations. Prerequisite: MU 56 with a grade of B, or the equivalent. J. M.
Baker.

108. (1050) Advanced Music Theory II
A study of theories of 20th-century music. Exercises in analysis and composition, focusing
on works of Debussy, Stravinsky, Schoenberg, Webern, Bartok and Ives. Students give
presentations on selected later composers. Prerequisite: MU 56 with grade of B, or the
equivalent. J. M. Baker.

109. (1060) Analysis and Performance of Music
Study of the implications of musical analysis for performance. Students prepare solo or
chamber works for performance in a formal concert presented at the end of the course.
Focuses on problems of interpretation and their resolution through analysis of musical
structure. Short analytical assignments and an extended analytical project required.
Prerequisite: MU 56 or permission of the instructor and proficiency on a musical
instrument. Enrollment limited. Written permission required. J. M. Baker.

110. (1070) Music After 1945
A study of the most important composers and styles of European and American concert
music since the end of the second World War. Assignments will include readings from
theoretical and critical writing of the period; score study, analysis and performance of
representative works; and compositions in the style of selected composers. Prerequisite:
MU 56 plus one course numbered between MU 103 and MU 108. Written permission
required. G. M. Shapiro.

119. (1690) Seminar in Jazz Studies†
Surveys contemporary musicology, ethnomusicology, and cultural studies of jazz,
combining music with analytical and ethnographic perspectives. May be repeated for
credit. Enrollment limited. Written permission required.

120. (1300) Introduction to Ethnomusicology (Africana Studies 120)
The study of people making music. Transcription, analysis, comparison; fieldwork;
ethnography and ethnology of music; case studies in Western art and world musics
highlighting such issues as authenticity, amateurism vs. professionalism, revivalism, music
education, and applied ethnomusicology. Prerequisite: MU 55 or written permission. J. T.
Titon.

123. Studies in Ethnomusicology
Explores a particular subject within ethnomusicology. May be repeated for credit.
125. Transcription and Analysis of Jazz
Transcriptions from major jazz recordings are made by the students. The personal styles of
the musicians are defined through analysis in the context of the various trends in jazz
history. The transcriptions are analyzed within the parameters of rhythmic and harmonic
structures, tone quality, motivic design, and idiomatic performance. Singing, ear-training,
and dictation are used to develop transcription skills. Written permission required. M. R.
McGarrell.

126. (1320) Music and Modern Life (Modern Culture and Media 120)
Examines topics related to the everyday use of music: popular music and the music
industry; the impact of technology; the determinants of musical taste; fandom; record
collectors; and music-based subcultures (e.g., Deadheads). The reading of empirical studies
(and original field research by class members) are combined with theoretical readings
drawn from sociology, ethnomusicology, and cultural studies. Enrollment limited. Written
permission required. M. A. Perlman.

129. (1332) American Roots Music (Ethnic Studies 129)
Case studies in African American, British and Irish American, Euro-American, Native,
Latino, and Asian American traditional musics from the mid-19th century to the present.
Prerequisite: MU 55 or written permission. J. T. Titon.

131. (1600) Music and Critical Theory
Studies of critical theory and related literary, philosophical, and historical disciplines in
terms of music. May be repeated for credit. Enrollment limited. Written permission
required.

132. (1612) Seminar in Music Criticism
May be repeated for credit. Enrollment limited. Written permission required.

133. (1622) Seminar in Music and Theater
May be repeated for credit.

134. (1632) Seminar in American Music
May be repeated for credit.

135. (1640) Seminar in Opera Studies
An advanced seminar dealing with critical, historical and aesthetic questions surrounding
opera as a genre. Topics, which will vary from semester to semester, include: the social
meaning of opera; staging and its vicissitudes; opera criticism; music as spectacle; voices
and vocalists; opera on film. Prerequisites will vary according to the instructor.

Opera, Politics, History, Gender (Comparative Literature 181, Italian Studies 133)
The will to social order and the desire to transgress it: this conflict in modern culture
has been negotiated dramatically in opera. This seminar concentrates on operas by
Mozart, Wagner, Verdi, Debussy, and Puccini. Each opera will be placed into dialogue
with historical and theoretical texts and analyze how opera engages power in relation
to gender, nationalism, modernism, and crises of representation. Enrollment limited.
Written permission required. M. P. Steinberg and S. Stewart-Steinberg.

137. (1660) Seminar in Classic and Romantic Music
Topic to be announced. Recent topics included Adorno, Wagner, Death and Dying. May
be repeated for credit. Written permission required.

The Case of Wagner
This seminar will explore Wagner, Wagnerism and revolutionary aesthetics and
politics in the nineteenth-century. Close textual, musical and production analysis of
three Wagner music-dramas–Lohengrin, Die Walküre, and Parsifal–will accompany reading and discussion of philosophical and critical texts from Nietzsche to Zizek. May be repeated for credit. Written permission required. M. P. Steinberg.

(1661) Death and Dying
Death preoccupied European culture during the long nineteenth-century. We examine the century’s treatment of requiems, operas, songs, piano and orchestra works, and oratorios, from Mozart’s Don Giovanni to Mahler’s Song of the Earth. We also read novels, poems, and short stories; and study art, architecture, sculpture, landscape design, mourning rituals, and the funerals of Wellington and Victoria. May be repeated for credit. Written permission required. D. S. Josephson.

Franz Liszt and the Romantic Century
An investigation of nineteenth-century music and culture through the prism of one of its most exemplary and influential figures. Topics will include the meanings of Romanticism, musical nationalism, the cult of the virtuoso, and Liszt’s religious music, along with historical questions about the revolution of 1848, the New German School, and the development of the Hungarian style. May be repeated for credit. Written permission required. D. Gooley.

138. (1670) Seminar in Twentieth-Century Music
Topic to be announced. Recent topics have included Schoenberg, Stravinsky, and Adorno; musicians in exile from Fascism. Written permission required.

(1672) Hitler’s Gift
The flight of musicians from Europe in 1933-45 exile changed the face of Western music, and it changed them. Among them were many of the great musicians of the twentieth-century, including Bartok, Casals, Klemperer, Rubinstein, Schoenberg, Toscanini, and Weill. We examine patterns of emigration, settlement, and adaptation through memoirs, letters, essays, newspaper articles, biographies, and recordings. Written permission required. D. S. Josephson.

In Search of Satie
Who was Satie? Adorned with umbrella and bowler like a figure out of Magritte, this curious composer is as elusive as his oeuvre. The course will trace Satie’s bohemian origins in the cafes of Montmartre to his fame among younger artists, from Cocteau to Cage. Readings in art history, intellectual history, and music criticism, will complement class performances. Prerequisite: MU 93 or permission. Written permission required. K. Bergeron.

(1673) Interpreting Debussy
A study in musical poetics. Debussy forms the launching point for a discussion of pleasure and liberty in harmony, melody, rhythm and form; of orchestral impressionism and of music’s links to poetry and painting. Close readings of scores and recorded performances will yield different approaches to interpretation, leading to two analytical papers and a final class concert. MU 55, 56 or permission of the instructor. Written permission required. K. Bergeron.

141. (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: MU 56 or permission of the instructor. Enrollment limited. Written permission required. G. M. Shapiro.

142. (1110) Seminar in Composition
Finding a personal voice as a composer. Assignments develop familiarity with large forms and increasingly complex structures. Analyses of contemporary compositions elucidate issues of aesthetic and political stance inherent in compositional activity and teach technical facility and range of expression. Problems of rehearsal and performance for new music are considered. Prerequisite: MU 141 or permission of the instructor. Enrollment limited. Written permission required. G. M. Shapiro.

143. (1120) The Technique of Orchestration
Introduction to standard instrumentation; exercises in basic principles; analysis of styles of scoring. Written permission required. G. M. Shapiro.

144. (1440) Topics in Conducting
Explores the art of reading, analyzing, and conducting a musical score. Prerequisite: MU 56. May be repeated for credit. Written permission required.

145. (1130) Jazz Composition and Arranging
A review of jazz theory topics, including rhythmic structures, scales and modes, harmonic progressions and substitutions, improvisation techniques, forms and development. Weekly writing assignments for two to five parts with rhythm section accompaniment. Students compose and orchestrate three works for small and large jazz ensembles. Guest composers review students’ compositions and various Brown jazz bands rehearse and record them. Prerequisites: MU 56, MU 75. Enrollment limited. Written permission required. M. R. McGarrell.

Half credit each semester. Building on the knowledge and skills acquired in MU 67/68, students will learn to perform a more challenging and specialized repertoire of contemporary drumming and dancing styles of West Africa, through more advanced rehearsals, discussions, readings and listening. Prerequisite: MU 67, 68 or permission of the instructor. May be repeated for credit. Enrollment limited. Written permission required. S/NC. Half credit. M. K. Obeng.

169. (1330) Music of Indonesia
The traditional music of Java, Bali, and Sumatra, with special attention to the bronze percussion orchestras (gamelan) and their use in ritual, dance, and drama. Topics include: music and trance; the impact of colonialism; nationalism, modernization, and tourism; and Indonesian music and “world beat.” Theory and practice are integrated through extensive instruction on Brown’s gamelan instruments. Enrollment limited. Written permission required. M. A. Perlman.

171, 172. (1810, 1820) Applied Music Program: Advanced Instruction in Vocal or Instrumental Music
Half course each semester. 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 teaching associates in the Applied Music Program. MU 73–74 is prerequisite to this course. A fee is charged for enrollment. Copies of the Applied Music Guidelines giving detailed information are available online. Prerequisite: MU 40, or 55–56.
173, 174. (1830, 1840) **Applied Music Program: Advanced Instruction in Vocal or Instrumental Music**

Half course each semester. 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 teaching associates in the Applied Music Program. MU 171–172 is prerequisite to this course. A fee is charged for enrollment. Copies of the Applied Music Guidelines giving detailed information are available online. Prerequisite: MU 40, or 55–56.

181. (1200) **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 in ProTools, microphone technique, and live sound engineering. Prerequisite: MU 11 or equivalent. Written permission required. J. R. MOSES.

182. (1210) **Seminar in Electronic Music**

Seminar in Electronic Music is a study of works employing electronic media, including music on CD, multimedia, and live performance. Technical aspects of the course focus on programming and signal processing using Max/MSP to create interactive projects and algorithmic compositions. For graduate and advanced undergraduates (with prerequisite MU 11). Written permission required. J. W. ROVAN.

184. **New Media Theory and Production**

Topics may vary from year to year. May be repeated for credit. Enrollment limited. Written permission required.

(1250) **Notation and Realization in Live Electronic Music**

This course offers an introduction to SuperCollider3 (SC3), a flexible software environment for composition, performance, and music installations. The premise of SC3 is to separate notation of musical processes from their realization in sound; class assignments consider works by Cage, Zorn, and Ashley that do the same. Final projects involve SC3 realizations of notations provided by other class members. Written permission required. R. KUIVILA.

186. (1240) **Topics in New Media Theory and Production**

Topics may vary from year to year. May be repeated for credit. Enrollment limited. Written permission required.

191. (1970) **Special Topics**

Directed undergraduate research for advanced students. Prerequisite: permission of the instructor.

192. (1970) **Special Topics**

Directed undergraduate research for advanced students. Prerequisite: permission of the instructor.

**Primarily for Graduates**

221. (2000) **History of Ethnomusicological Thought**

A history of thought about music outside the Western art music tradition. Three historical paradigms—comparative musicology, musical folklore, and ethnomusicology—and the search for a new approach to ethnomusicology in the postcolonial era. Prerequisite: MU 120 or consent. J. T. TITON.
222. (2010) *Field Research in Ethnomusicology*
Introduction to the theory and practice of fieldwork with people who make music. Project design, interviewing, still and video photography, recording, ethics, the researcher’s roles, relations with human subjects, and strategies for documenting music in its human context. Prerequisite: Graduate standing or written permission. J. T. TITON.

223. (2020) *Interpretation in Ethnomusicology*
How to think and write about people making music. Ethnomusicological representation and authority; analytical, interpretive and experiential approaches; postmodern and postcolonial considerations; hypertext multimedia representations. Prerequisite: Graduate standing or written permission. J. T. TITON.

225. (2080) *Seminar in Ethnomusicology*
An intensive study of a single topic in ethnomusicology. Written permission required for undergraduates.

226. (2090) *Seminar in Ethnomusicology*
An intensive study of a single topic in ethnomusicology. Written permission required.

228. (2100) *Seminar in Music Theory*
An intensive study of a single topic in music theory. Written permission required. J. M. BAKER.

229. (2600) *Seminar in Critical Theory†*
An intensive study of writings by selected scholars and thinkers in disciplines such as critical theory, literary theory, cultural studies, and philosophy in relation to the study of music. Written permission required.

230. (2300) *Seminar in History and Culture*
*The Improviser’s Art*
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, and the status of “freedom” in creative processes, and the social and artistic functions of improvisation. D. GOOLEY.

280. (2200) *Seminar in Computer Music and Multimedia Composition*
A weekly forum for graduate composers to share and critique current projects. Visiting artists and analysis of relevant modern repertory will augment class discussion of student work. Individual private lessons - taught in addition to the three-hour seminar - help students focus on compositional technique and other problems of expression specific to their own projects. May be repeated for credit. Written permission required. J. W. ROVAN.

282. (2820) *Designing and Playing Alternate Controllers*
Explores the science and aesthetics of designing alternate controllers for musical performance. Topics include basic electronics and hardware prototyping, instrument construction, theories of gesture, human-computer interface issues, and the challenges of mapping sensor data to meaningful musical parameters. J. W. ROVAN.

286. (2270) *Special Topics in Digital Media Research and Production*
May be repeated for credit.

(2240) *Composing and Improvising with Real-time Systems*
This seminar will explore the use and creation of interactive computer music systems from the point of view of the performer/programmer. Using improvisation as a starting
point, we will explore the aesthetics and philosophy of performance, designing real-time systems in MaxMSP that enhance the relation between action and event using network strategies. Written permission required. J. W. ROVAN.

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. Written permission required. T. E. WINKLER.

288. (2280) Designing-Large-Scale Multimedia Projects
A production seminar designed for students working on a single, large project in Multimedia and/or Computer Music. The course covers planning and implementation strategies, with group critiques of proposals and works-in-progress. The class structure includes individual lessons for students working on a graduate or undergraduate thesis project. May be repeated for credit. Written permission required. T. E. WINKLER.

289. (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. No course credit.

291. (2980) Special Topics
Directed graduate research.

292. (2980) Special Topics
Directed graduate research.

299. (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. No course credit.

Neuroscience
Neuroscience program descriptions and course offerings are listed under the Biology and Medicine section on page 240.

Pembroke Center for Teaching and Research on Women
The Pembroke Center for Teaching and Research on Women brings together faculty and students interested in questions relating to women and gender. Faculty associated with the Center are available to advise students, who may concentrate in gender and sexuality studies or who may develop a cluster of gender and sexuality studies courses to enrich a standard concentration. In addition to its curricular interests, the Pembroke Center funds postdoctoral fellows for a year of research in residence at Brown, conducts an annual two-semester research seminar, and sponsors numerous research initiatives. For additional information, please see the Center’s website at: http://www.pembrokecenter.org/
Philosophy

Professors Ackerman, Dreier, Estlund (Chair), Heck, Gill, Hill, Larmore, Kim; Associate Professors Arpaly, Broackes, Reginster; Assistant Professors Kutach and Schechter.

Undergraduate Program

For a complete description of the standard concentration program leading to the A.B. degree, please visit: http://www.brown.edu/Administration/Registrar/concentration.html, or the department’s website at: http://www.brown.edu/Departments/Philosophy/main.html.

Graduate Programs

Doctor of Philosophy. The preliminary requirements may be satisfied by demonstrating competence in logic, philosophy of science/language/mind, ethics, epistemology, metaphysics, and history of philosophy. This may be done either by passing prescribed courses with a quality grade or through satisfactory completion of an individually tailored major-minors program, planned in consultation with the graduate advisor and submitted to the department for approval. Within seven semesters of full-time or equivalent residency at Brown, the student must gain admission to candidacy. Admission to candidacy is granted after satisfaction of the preliminary evaluation and distribution requirements and upon approval of a dissertation prospectus by a dissertation committee. An oral defense of the dissertation is required.

Courses of Instruction

Primarily for Undergraduates

1. (0010) The Place of Persons†
Some main philosophical problems about persons and their place in the world: the nature of persons and personal identity; mind and body; persons as free agents in a deterministic world; the subjectivity of personal values and the objectivity of moral requirements; the meaning of life. A main objective is to facilitate the student’s own thinking about such issues.

2. (0020) Mind and Matter
This course will examine the relationship between the mind and the material world. It will begin with a historical survey of prominent accounts of the nature of the mind. We will then examine two prominent contemporary issues: consciousness and physicalism. We will be interested in how these issues relate to the traditional mind-body distinction.

3. (0030) Skepticism and Knowledge
What is knowledge? What is the extent and basis of one’s knowledge about physical objects, other people, oneself, the future, morality, and religion? F. N. ACKERMAN.

4. (0040) Reason and Religion
This is an introductory course in the philosophy of religion. We will be considering central questions in the philosophy of religion, e.g. the existence of God, from a contemporary analytic perspective. As this is a course in analytic philosophy, we will be addressing these issues in a way that stresses clarity and rigor.
5. (0050) Philosophy of Art
This course is an introduction to philosophy through the lens of philosophical issues surrounding art. Students will explore in detail some of the basic issues in aesthetics, including representation, expression, the definition of ‘art’, and conceptions of individual artworks, from a contemporary analytic perspective. Readings and examples are drawn from all artistic fields.

6. (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. Possible topics include animal experimentation, euthanasia, organ transplantation, and moral and legal issues raised by the computer revolution. More generally, we discuss what is and ought to be the role of the scientific community in deciding moral and social issues.

7. (0070) The Individual and the State
In this course, we will read several primary texts of the great political philosophers. We will undertake a survey of the main threads of political philosophy that have underpinned much of western political thought as well as look at some more modern takes on the question of man’s role in the body politic.

8. (0080) Existentialism
An introduction to philosophical thinking through the study of existentialist themes, including being oneself, loving others, the limits of morality, and the meaning of life in the face of suffering and death. Readings are drawn primarily from Schopenhauer, Dostoyevsky, Nietzsche, Kierkegaard, Heidegger, Sartre, de Beauvoir, and Camus. Enrollment limited. Written permission required. B. REGINSTER.

9. (0090) Philosophy East and West
Investigates themes associated with what is known as the “Western” philosophical tradition—e.g., idealism, skepticism, and the limits of understanding—as they arise in various philosophical traditions in the East (including Upanishadic, Buddhist, and Taoist traditions). The “Western” philosophers studied include key historical figures such as Wittgenstein, Kant, and Plato, as well as more recent philosophers.

10. (0100) Critical Reasoning
A study of the techniques and principles of correct reasoning and effective communication. Topics may include deduction and induction, meaning and definition, fallacies in reasoning, the basic logic of propositions and predicates, and the essentials of inductive reasoning.

11. (0110) The Nature of Fiction
This course is concerned with philosophical questions arising from the concept of fiction. Topics will include: What makes a story a fiction? What are fictional characters? Are fictions “created”? Are fictions physical things, like books? How do fictions make us care about things we don’t even believe in? How do fictions affect our moral beliefs?

12. (0120) Freedom and Responsibility
An introduction to philosophy by way of consideration of such issues as: whether we are, can be, or ought to be free to think and act as we choose; whether we are or can be responsible (morally or legally) for our thoughts or actions or their consequences; and whether we ought to be punished for any of our thoughts or actions or their consequences. Readings from classical and contemporary sources.
13. (0130) Introduction to Analytic Philosophy
This course will introduce the methods and issues of contemporary analytic philosophy. We will begin with an overview of the structure of philosophical reasoning and then apply these methods by entering several hot debates in contemporary epistemology, metaphysics, philosophy of language, and decision theory.

18. (0180) Feminist Philosophy
Examines both traditional philosophical questions from a feminist perspective and distinctively feminist issues in a philosophical way, with an emphasis on the analysis of arguments and methods to support various conclusions. Feminist critiques and insights are applied to questions regarding philosophical methodology, objectivity, knowledge, science, ethics, and political issues.

19. (0190) Contemporary Moral Problems
This is an introduction to moral philosophy through a consideration of issues of actual public controversy. For example, issues such as abortion, affirmative action, civil disobedience, animal rights, free speech, capital punishment, war and terrorism, and euthanasia. Emphasis is placed on identifying, evaluating, and constructing careful and well thought-out moral arguments.

20. (0200) First Year Seminar
Enrollment limited. Written permission required. S/NC.

21. (0210) Science, Perception and Reality (Science and Society 51)
It is implausible that scientific discoveries could make us give up commonsensical beliefs. It is even less plausible that commonsense could make us reject established scientific theories. So when science and commonsense appear to clash, as they do over colors, solidity, mental content, values, and death, serious philosophical problems arise. We will investigate possible responses to these problems. D. KUTACH.

23. (0230) Human Knowledge and Truth
We consider the concepts of knowledge and truth, given the contemporary notion that conflicting views about the world can both “be correct”. Issues covered will include: realism and anti-realism, pluralism and relativism, conceptual relativity, and objectivity. Readings will come from contemporary analytic philosophers, including Devitt, Rorty, Putnam and Nagel.

24. (0240) Dreams
This course is concerned with philosophical questions arising from dreams and dreaming. We will be dealing with contemporary and historical philosophers’ work in an exploration of this mysterious and fascinating, yet extremely widespread, activity.

35. (0350) Ancient Philosophy (Classics 15)
We will discuss the ethics, epistemology, and metaphysics of the principal figures in ancient philosophy from the Presocratics to Aristotle. Emphasis is given to understanding the problems the philosophers were trying to solve and to assessing the arguments for their various positions. Primary readings are from the original sources in translation. M. L. Gill.

36. (0360) Early Modern Philosophy
An introduction to central themes in Descartes, Spinoza, Leibniz, Locke, Berkeley, Hume, and Kant. Major topics include: reason, experience, and knowledge; substance and the nature of the world as it really is; induction, causation, and the origin of our ideas; skepticism, realism, and idealism. Connections are made with the scientific revolution of the 17th century. J. Broackes.
50. (0500) **Moral Philosophy**
A systematic introduction to the main branches of moral theory, including questions about the nature of value and morality and how it might be known, general theories of what morality requires, and applications of moral theory to concrete moral controversies such as abortion, euthanasia, ethics in war, and obligation to help the needy. N. ARPALY.

54. (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 prediction. Argumentation and reasoning may also be addressed at times. No previous experience with logic or philosophy is required.

56. (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. D. ESTLUND.

85. (0850) **Philosophy of Language**
Discussion of the nature of linguistic meaning and other topics, such as vagueness; metaphor; and language, thought, and culture.

88. (0880) **Philosophical Themes in the Contemporary American Short Story**
Consideration of contemporary American short stories in terms of their treatment of such philosophical themes as love, loyalty, envy, belief, despair, and charity. Focuses on themes in moral philosophy, rather than themes in social and political philosophy. Enrollment limited. Written permission required. F. N. ACKERMAN.

99. (0990) **Undergraduate Seminars**
Seminars whose topics change annually. Enrollment in each seminar is limited to 20. Prerequisites are as noted. Enrollment limited. Written permission required.

For Undergraduates and Graduates

125. (1250) **Aristotle** (Classics 125)
A close study of Aristotle’s major works: his metaphysics, philosophy of nature, philosophy of mind, and ethics. Readings from original sources (in translation) and contemporary secondary material. (Students wishing to read the texts in the original Greek should make arrangements with the instructor.) M. L. GILL.

126. (1260) **Plato** (Classics 126)
A close reading of Plato’s major dialogues from a philosophical perspective. Topics may include his ethics, politics, metaphysics, epistemology, philosophy of mind, philosophy of language, or aesthetics. Readings from original sources (in translation) and contemporary secondary material. (Students wishing to read the texts in the original Greek should make arrangements with the instructor.) M. L. GILL.

127. (1270) **Pragmatism**
Course examines the central themes of American pragmatism - the belief/doubt model of inquiry, assertibility theories of truth, the critique of philosophical dualisms - with some attention to their applications to social philosophy. The focus will be on the classical theories of Peirce, James, and Dewey, as well as on contemporary philosophers such as Quine, Rorty, and Putnam. C. LARMORE.
130. (1300) Philosophy of Mathematics (Science and Society 130)
An introduction to the philosophy of mathematics. Topics include the nature of mathematical objects and the status of mathematical knowledge. In the first part of the course, we will consider historically-influential views, such as Formalism, Intuitionism, and Logicism. In the second, we will consider contemporary views of mathematics, such as Fictionalism, neo-Fregeanism, and Structuralism. J. SCHECHTER.

Examines explanations of the origin of the cosmos, human beings and issues of human concern, such as illness, death and the afterlife, with readings from literary, philosophical, and scientific sources from the ancient Near East and Greece. We will ask how we and the ancients distinguish science from non-science and how ancient science differs from our own. M. L. GILL.

140. (1400) Philosophy in the Novel
Consideration of novels in terms of their treatment of such philosophical themes as death, courage, faith, betrayal, responsibility to others, and mercy. Focuses on themes in moral philosophy rather than themes in social and political philosophy. Half of the course deals with Malory, the other half with contemporary American novels. F. N. ACKERMAN.

145. (1450) Aesthetics
An investigation of philosophical issues concerning art and aesthetic experience. Topics include the nature of aesthetic judgment and experience, the basis for general standards of taste, what makes something a work of art, the aesthetic appreciation of objects that are not art (e.g., nature), and the relationship between aesthetics experience and morality. Readings are from historical and contemporary philosophers.

152. (1520) Consciousness
Topics will include: forms of consciousness, physicalist and representationalist theories of qualia, pain and other bodily sensations, emotional experience, conscious thought, higher order representation theories of consciousness, self-representation theories, global workspace theories, blindsight and related phenomena, and the roles of attention and working memory in perceptual consciousness. Enrollment limited. Written permission required. C. HILL.

155. (1550) Decision Theory: Foundations and Applications
Decision theory is a formal apparatus for analyzing preferences and choices. Students learn the formal theory and then examine its foundations and philosophical implications. Specific topics: the role of causation in decision problems, the status of the axioms of the theory, problems of infinite utility, rudimentary game theory, social choice functions, utilitarianism as a theorem. J. DREIER.

159. (1590) Philosophy of Science
Examines philosophical issues concerning science such as observational versus theoretical concepts, the nature of laws and theories, the logic of scientific explanation, reduction of concepts and theories, probability and confirmation, functional and teleological analysis, scientific changes and revolutions, and the realist versus irrealist interpretation of theories. D. KUTACH.

160. (1600) Philosophy of Law
Philosophical examination of the chief classical and contemporary theories of the nature and function of law. Topics include the definition of law, the nature of legal systems, the
logic of legal reasoning, the analysis of basic legal conceptions (e.g., of right and duty),
legal rules and principles, law and justice, and law and morality. J. Dreier.

161. (1610) Philosophy of Relativity Physics
This course will examine how Einstein’s Special and General Theory of Relativity bears on
important philosophical issues with a focus on whether spacetime constitutes a kind of
substance and what spacetime structures are required to support explanations of physical
phenomena. Also discussed are connections with logical positivism, cosmology, spacetime
singularities, determinism, wormholes, time travel, causation, and the passage of time.
D. Kutach.

162. (1620) Philosophy of Quantum Mechanics (Science and Society 162)
Course will analyze interpretations of non-relativistic quantum mechanics like the
Copenhagen interpretation, Everett’s relative state interpretation, the many-worlds/many-
minds interpretations, GRW-type collapse models, Bohm’s interpretation, and various
modal interpretations. The focus will be the measurement problem, but we will also discuss
connections with mental states, the contextual nature of measurement, non-locality and
spacetime. D. Kutach.

163. (1630) Advanced Deductive 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, up through the completeness theorem and its consequences. Further topics
may include modal logic, conditionals, basic set theory, and epistemic logic. Prerequisite:
PL 54 or permission of the instructor. J. Schechter.

164. (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.
J. Dreier.

165. (1650) Moral Theories
A systematic examination of the main alternative normative moral theories: consequentialism; moral rights; moral duties; moral virtues. Focuses on the principal issues in the formulation of the different theories, on the main points of conflict between them, and on the critical evaluation of each. Readings are drawn mainly from contemporary work in moral philosophy. N. Arpaly.

166. (1660) Metaphysics
Selections from the following topics: causation and determinism, identity and persistence,
including personal identity, necessity and possibility, essence and essentialism, freedom
and agency, ontology, substances and events, the nature of time, realism and antirealism.
Prerequisite: two courses in philosophy. J. Broackes.

167. (1670) Time
Course will focus on two questions: “Does time flow?” and “What is the difference between
the future and the past?” This involves issues of fate, our consciousness of time, the
connection between time and motion, and time travel. We’ll discuss arguments from
classical Greek and medieval Arabic philosophy and bring modern physics to bear on these
questions. D. Kutach.

170. (1700) British Empiricists
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. J. Broackes.

172. (1720) Kant: The Critique of Pure Reason
A detailed study of Kant’s theoretical philosophy in the Critique of Pure Reason, which we will read in its entirety alongside contemporary secondary source material.

173. (1730) Nietzsche
A systematic study of Nietzsche’s philosophy as it developed throughout his works. Substantial attention also given to Nietzsche’s major philosophical predecessors (e.g., Kant and Schopenhauer) as well as to the most significant recent secondary literature on his philosophy. Prerequisite: at least one prior course in philosophy. B. Reginster.

174. (1740) Nineteenth-Century Philosophy†
Study of the major figures of 19th-century philosophy, such as Kant, Schiller, Hegel, Schopenhauer, and Nietzsche. Prerequisite: at least one prior course in philosophy, preferably in moral philosophy (e.g., PL 50). B. Reginster.

175. (1750) Epistemology (Science and Society 175)
This course provides a survey of central issues in contemporary epistemology. We will discuss the nature of knowledge, justification, and rationality. Topics include: difficulties with the traditional analysis of knowledge, skepticism about the external world, the nature of empirical justification, the problem of induction, and the epistemology of the a priori. J. Schechter.

176. (1760) Philosophy of Language
This course examines recent philosophical work in natural language semantics. The focus is on names and descriptions. We will consider which kinds of propositions sentences containing these terms express, and their truth conditions. We may also examine belief reports and vague terms, and other theoretical issues. Prerequisite: PL 54 or PL 163 or CG 111 or permission of instructor. C. Hill.

177. (1770) Philosophy of Mind
Questions concerning the nature of mentality and its relation to the body. Selections from the following topics: mind and behavior, mind as the brain, mind as a computing machine, thought and language, action and mental causation, intentionality and consciousness, emotion and volition, the nature and possibility of a science of mind. Prerequisite: one course in philosophy or background in cognitive science. J. Kim.

181. (1810) Topics in Philosophy of Language
182. (1820) Philosophy and Psychoanalysis
This course focuses on psychoanalytical conceptions of mental life and mental health. It offers a comprehensive and systematic examination of the main developments in psychoanalysis from Freud to the present; a critical exploration of their fundamental concepts, methods, and doctrines; an assessment of their impact on other disciplines, including e.g. philosophy, literary and cultural studies, and religious studies. B. Reginster.

183. (1830) Twentieth-Century Analytic Philosophy
This course will cover major philosophers and movements of the 20th century philosophy in the analytic tradition, from the early ground-breaking works of Frege, Russell, and Wittgenstein through Logical Positivism, “ordinary language” philosophy, Quine, and the later developments. Philosophical issues discussed concern philosophy of language,
metaphysics, epistemology, philosophy of science, ethics, and the nature and possibility of philosophy. J. SCHECHTER.

184. (1840) *Twentieth-Century Continental Philosophy*
The course will offer a systematic examination of the early philosophy of Jean-Paul Sartre, focusing on *Being and Nothingness* and related texts, such as *The Transcendence of the Ego, Self-Consciousness and Self-Knowledge*, as well as the early essays on the imagination and the emotions. The primary philosophical issue will be Sartre’s conception of subjectivity. Prior acquaintance with philosophy is required, preferably in ethics, philosophy of mind, or epistemology. B. REGINSTER.

185. (1850) *Philosophical Logic†*
An examination of various philosophical issues arising in the foundations of logic, such as the following: existence, definite description, reference and truth, semantic paradoxes, implication and presupposition, modalities and “possible worlds,” logical truth, the nature of logical knowledge, and logic in natural language. Prerequisite: PL 163 or the permission of the instructor.

188. (1880) *Mathematical Deductive Logic*
An introduction to the techniques and concepts of mathematical logic encompassing such topics as recursion theory, computation theory, and set theory, and emphasizing especially the broader ramifications of important formal results (e.g., Gödel’s incompleteness theorem). Intended as a sequel to PL 163; previous participation in either that course or one of similar content is strongly recommended.

189. (1890) *Topics in Twentieth-Century Philosophy*

199. (1990) *Topical Investigations*
An elective for seniors with at least six previous courses in philosophy.

**Primarily for Graduates**

201. (2980) *Research in Philosophy*
Section numbers vary by instructor. Please see the registration staff for the correct section number to use when registering for this course.

202. (2020) *Seminar* J. KIM.
203. (2030) *Seminar* N. ARPALY.
204. (2040) *Seminar* C. LARMORE.
205. (2050) *Seminar*
206. (2060) *Seminar* C. HILL.
207. (2070) *Seminar* J. DREIER.
210. (2100) *Seminar* D. ESTLUND.
211. (2110) *Seminar* J. BROACKES.
212. (2120) *Seminar* R. HECK.
213. (2130) *Seminar* D. KUTACH.
214. (2140) *Seminar* J. SCHECHTER.
215. (2150) *Seminar* M. L. GILL.
216. (2160) *Seminar* F. N. ACKERMAN.
217. (2170) *Seminar* B. REGINSTER.
220. (2200) Graduate Proseminar
This course will cover classics of Philosophy from the end of the nineteenth century to the end of the twentieth century, including moral as well as metaphysics, epistemology and philosophy of language. For first year graduate students. Written permission required. Double credit. R. Heck

289. (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. No course credit.

299. (2990) Thesis Preparation

Physics

Professors Baird, Beyer*, Cooper, Cutts, Elbaum*, Estrup*, Fallieros, Feldman*, Fried*, Gerritsen*, Glicksman*, Guralnik, Jevicki, Kosterlitz, Lanou*, Levin*, Maris, Marston, Maxson*, Nurmiikko, Partridge, Pelcovits, Seidel*, Shapiro*, Stratt, Tan (Chair), Taue, Valles, Weiner*, Westervelt*, Xiao, Xu, Ying; Associate Professors Crawford, Dell’Antonio, Gaitskell, Landsberg, Ling, Lowe, Narain, Tucker, Zaslavsky; Assistant Professors Feldman, Mitrovic, Spradlin, Stein, Tang, Volovich; Assistant Professor (Research) Li; Adjunct Professors (Research) Ala-Nissila, Brandenberger, Lawandy, Oldenbourg; Adjunct Assistant Professors (Research) Antonelli, Liu, Tas; Adjunct Associate Professor Targan.

The department aims to develop in its students a comprehensive grasp of the principles of physics, together with a productive capacity in research. The courses of study are flexible in subject matter and are conducted by means of lectures, seminars, laboratories, and colloquia. Undergraduate as well as graduate students have opportunities to carry out research in fields of current interest.

The principal research fields of the department are condensed matter physics, elementary particle physics, low-temperature physics, nonlinear optics, physical acoustics, astrophysics, cosmology, and general relativity. Interdisciplinary study and research, coordinated with other departments, is encouraged for students interested in brain and neural science, biophysics, semiconductor physics, geophysics, physics of solid continua, polymer physics, and computational physics, as well as other fields.

Undergraduate Programs
For a complete description of the following standard concentration programs leading to the bachelor's degree please visit: http://www.brown.edu/Administration/Registrar/concentration.html

Astronomy
Engineering and Physics
Geology-Physics/Mathematics
Mathematics-Physics
Physics

* Emeritus.
Graduate Programs

Master of Science. The minimum requirements for this degree consist of eight courses or equivalent. These would normally be 200-level physics courses, e.g., the core courses PH 201, 203, 204, 205, 206, 208, 214, 217, 241. Other courses outside the department or 100-level courses can be substituted by permission of the physics department. No more than two courses can be research courses. The usual program for a half-time assistant is the same as Semesters 1–3 of the Ph.D. program described below. These courses and the general requirements of the Graduate School lead to the master’s degree.

Doctor of Philosophy. The usual program for a half-time assistant is shown below; other arrangements are possible, depending on the student’s background, interests and special requirements.

Semester 1: PH 205, 203, and one elective (or PH 201). Semester 2: PH 201 (or one elective), 206 and 204. Semester 3: PH 207, 208, and 241. Semester 4: PH 214, 217 (if not taken earlier), and one or two electives. Semester 5: PH 241 (if not taken earlier), and one or two electives. A qualifying examination is given at the beginning of Semester 3, and the preliminary examination is given during Semester 5. These examinations may be taken earlier, by permission of the department. There are six required core courses (PH 201, 203, 204, 205, 206, 214) and in addition a minimum of four advanced courses need to be completed beyond the core courses. These courses and examinations, together with the general requirements of the Graduate School, including a research thesis, lead to the Ph.D.

Students with insufficient preparation in certain subjects may postpone some of the usual first-year programs and take courses on the 100-level.

All new graduate students take a diagnostic examination during the registration period preceding their first semester. The results of this examination are used solely as an aid to the selection of suitable courses.

For additional information please visit the department’s website at:
http://www.physics.brown.edu/

Courses of Instruction

Primarily for Undergraduates

3. 4. (0030, 0040) Basic Physics
Survey of mechanics, electricity, magnetism, optics, and modern physics for concentrators in sciences other than physics—including premedical students, who take the course as juniors or seniors—or students without prior exposure to physics who require a less rigorous course than PH 5, 6. Employs the concepts of elementary calculus but little of its technique. Lectures, conferences, and laboratory. Six hours of attendance. Corequisites: MA 9, 10, or written permission.

5. (0050) Foundations of Mechanics
An introduction to Newtonian mechanics that employs elementary calculus. Intended for science concentrators. Potential physics concentrators, not prepared for PH 7, may enroll, but are urged to continue with PH 8 rather than PH 6. Lectures, conferences and laboratory. Six hours of attendance. Corequisite: MA 9, or written permission.

6. (0060) Foundations of Electromagnetism and Modern Physics
An introduction to the principles and phenomena of electricity, magnetism, optics, and the concepts of modern physics. Recommended for those who wish to limit their college physics to two semesters but seek a firm grounding in the subject, including but not limited
to those with some previous knowledge of physics. Lectures, conferences, and laboratory. Six hours of attendance. Prerequisite: PH 5. Corequisite: MA 10 or written permission.

7. (0070) Analytical Mechanics
A mathematically more rigorous introduction to Newtonian mechanics than PH 5. 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.

8. (0080) Introduction to Relativity and Quantum Physics
A mathematically rigorous introduction to special relativity and quantum mechanics. The second course in the three-semester sequence (PH 47 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: PH 7 or 5. Corequisite: MA 18, 20 or instructor’s permission.

10. (0100) First Year Seminar (Topics vary by year.)
   *Images From Science, Images for Science* (University Courses 10, Visual Art 14)
   Images and objects that come from nature and science—from Elm trees to galaxies—can be a source of inspiration for the artist. But images, objects and animations can also help in the understanding of deep and subtle scientific ideas. In this course we present some basic ideas of physics and biology. These suggest images that can inspire works of art as well as those that can aid in explaining science. Students selected for this course via the FYS lottery will be required to complete a questionnaire in order to complete the registration process. Enrollment limited. Written permission required.

11. (0110) First Year Seminar (Topics vary by year.)
   *(0110) Inner Space Outer Space - Exploring the Frontiers of Physics*
   We will study the frontiers of science at the smallest and the largest scales, those of particles and of the universe. The material will be accessible to anyone with an interest in science and a willingness to explore. In addition to regular discussions, the course will involve work building maps on the web that illustrate the connectivity of ideas and, as well, sessions at local high schools sharing this material. Enrollment limited. Written permission required.

12. First Year Seminar (Topics vary by year.)
   *(0120) Beautiful Theories of Physics: From Harmony of the Spheres to Superstrings*

   *(0121) Introduction to Environmental Physics: The Quantum Mechanics of Global Warning*
   We will use basic physics and simple mathematical models to investigate climate change, energy and entropy, the dispersal of pollutants, solar power, and other aspects of environmental science. Lectures will be supplemented with demonstrations of key physical principles. Emphasis will be placed on quantitative reasoning. Enrollment limited. Written permission required.
21. (0210) *Beginning Astronomy*
Semester I: historical and conceptual developments and the study of the solar system. Semester II: stars and their evolution, our galaxy, and the universe at large. Considers the role of pulsars, quasars, neutron stars, and black holes in modern views of the universe. Three hours of attendance. See also PH 27. Either semester may be taken independently.

22. (0220) *Beginning Astronomy*
See *Beginning Astronomy* (PH0021) for course description.

27. (0270) *Introduction to Astronomy*
A complete survey of basic astronomy, more rigorous than is offered in PH 21, 22. 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 taking an independent concentration in astronomy. In addition to laboratory and conferences, class meets for 1 1/2 hours each week. Enrollment limited. Written permission required.

28. (0280) *Introduction to Astrophysics and Cosmology*
A survey of astrophysical phenomenology and the application of physical theory to its interpretation. Prerequisites: PH 4, 6, 8 or written permission.

47. (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: PH 4, 6, 8 and MA 9, 10; or approved equivalents.

50. (0500) *Advanced Classical Mechanics*
Dynamics of particles, rigid bodies, and elastic continua. Normal modes. Lagrangian and Hamiltonian formulations. Prerequisites: PH 7, 8 or 5, 6 and MA 18 or 20; or approved equivalents.

56. (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: PH 7, 8 or 5, 6; 47.

79. (0790) *Physics of Matter*
An introduction to the principles of quantum mechanics and their use in the description of the electronic, thermal, and optical properties of materials. Primarily intended as an advanced science course in the engineering curriculum. Open to others by permission. Prerequisites: EN 4, AM 34 or equivalents.

For Undergraduates and Graduates

117. (1170) *Introduction to Nuclear and High Energy Physics*
A study of modern nuclear and particle physics, with emphasis on the theory and interpretation of experimental results. Prerequisites: PH 141, 142, or written permission.

128. (1280) *Introduction to Cosmology*
This course is intended to provide an introduction to basic concepts in cosmology, as well as to the basic astrophysics of black holes, at a level that is accessible to undergraduate students with no astrophysics background. The course will serve as an upper-level elective course for physics concentrators, but is open to students from other concentrations who are
interested in current developments of cosmology. This course can also serve as an introduction to the graduate-level course PH 228.

141, 142. (1410, 1420) 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: PH 47, 50, 56; or MA 52, 54; or approved equivalents.

151. (1510) Advanced Electromagnetic Theory
Maxwell’s laws and electromagnetic theory. Electromagnetic waves and radiation. Special relativity. Prerequisites: PH 47 and MA 18 or 20, or approved equivalents.

153. (1530) Thermodynamics and Statistical Mechanics

156. (1560) Modern Physics Laboratory
A sequence of intensive, advanced experiments often introducing sophisticated techniques. Prerequisites: PH 47, 50, 56; or MA 52, 54; or approved equivalents.

161. (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: PH 5, 6, and MA 18. Written permission required.

172. (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 Physics 50, 141, 142, 151 and 153. Prerequisites: PH 6 or 8, MA 18, 20 or 35, or consent of the instructor.

198. (1990) Senior Conference Course
Preparation of thesis project. Required of candidates for the degree of bachelor of science with a concentration in physics.

199. (1970) Special Topics in Experimental and Theoretical Physics
Primarily for Graduates

201. (2010) Techniques in Experimental Physics
203. (2030) Classical Theoretical Physics I
204. (2040) Classical Theoretical Physics II (Engineering 264)
205. (2050) Quantum Mechanics
206. (2060) Quantum Mechanics
207. (2070) Advanced Quantum Mechanics
210. (2100) General Relativity and Cosmology
Given every other year.
214. (2140) **Statistical Mechanics**

217. (2170) **Introduction to Nuclear and High Energy Physics**

221. (2210) **Elementary Particle Physics II**

228. (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: PH 128 and PH 153.

230. (2300) **Quantum Theory of Fields I**

232. (2320) **Quantum Theory of Fields II**

234. (2340) **Group Theory**
   Offered every other year.

241. (2410) **Solid State Physics I**

242. (2420) **Solid State Physics II**

243. (2430) **Quantum Many Body Theory**

247. (2470) **Advanced Statistical Mechanics**

261. (2610) **Special Topic in Physics**

262. (2620) **Special Topic in Physics**

271, 272. (2710, 2711) **Seminar in Research Topics**
   Instruction via reading assignments and seminars for graduate students on research projects. Credit may vary.

289. (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. No course credit.

291, 292. (2980, 2981) **Research in Physics**

299. (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. No course credit.

**Related Courses**

Attention is called to the following closely related courses offered in other departments:
Applied Mathematics 205, 206, Mathematical Methods of Applied Science; Applied Mathematics 213, 214, Methods of Applied Mathematics; Chemistry 201, Advanced Thermodynamics; Engineering 203, Advanced Dynamics; Engineering 263, 264, Electromagnetic Theory. Consult the appropriate portions of the bulletin for further details, as well as for other courses in these departments and in the Department of Mathematics.

**Political Science**

Professors Biersteker, Cobb, Cook, Cornwell (Emeritus), Hopmann (Chair), Morone, Orr, Stultz (Emeritus), West, Zuckerman; Associate Professors Andreas, Cheit, Krause, Luong,
Undergraduate Program

For a complete description of the standard concentration program leading to the A.B. degree please visit: http://www.brown.edu/Administration/Registrar/concentration.html.

Graduate Program

The Ph.D. Program in Political Science.

The Ph.D. Program in Political Science at Brown University offers an opportunity for creative individuals interested in pursuing academic or professional careers. Students may specialize in any of four important areas: American Politics, Comparative Politics, International Relations, or Political Theory. Those who complete the program will be prepared not only to teach and to conduct research within universities, but to apply their special skills of analysis and communication in government agencies, private corporations, nonprofit foundations, and other institutions that need persons who combine trained intelligence with specialized knowledge.

Curriculum and Program Requirements. The Ph.D. requires two years of course work, followed by preliminary exam, supervised research and writing of a doctoral dissertation. Students take a written general examination after completion of their course work, and a final oral examination after a faculty committee has approved the dissertation.

The formal requirements for the Ph.D. degree in political science are:

1. Twelve courses completed with a grade of B or better, of which ten must be in the Department of Political Science. On the recommendation of the Director of Graduate Studies (DGS), two may be in a related discipline outside the department. Eight of the department courses must be 200-level graduate seminars in Political Science. One must require a major research paper.
2. The courses must include: PS 200; PS 160 or 259; two proseminars PS 210, 211, 212, 213 or 217; and the two-semester research design sequence PS 287/PS 288.
3. Students will take a written exam and an oral examination in two of the four general areas (American, Comparative, International Relations, and Political Theory). Completing all course work and passing the preliminary exams (both written and oral) constitute the requirements for formal admission to candidacy for the Ph.D.
4. Teaching experience under the supervision of a member of the faculty—in both the main field of expertise and in a second field.
5. A written prospectus and a public defense of the proposal for the dissertation.
6. Adequate mastery of a modern foreign language if appropriate for the dissertation.
7. Completion and successful defense of the Ph.D. dissertation.

In addition to these formal requirements, each Ph.D. candidate is encouraged to undertake a “professionalization project” which consists of a substantial research project that can lead to publication of an article in a peer reviewed journal.

The first year of the program centers on the core courses, which include a seminar on Strategies of Inquiry and Research Design and a course in statistical methods. Students with advanced quantitative training may petition the DGS to satisfy the statistics requirement with an advanced statistics class.

In order to provide the student with a broad knowledge of contemporary political science and as a means of integrating graduate study in political science at Brown, four
proseminars in American Politics, Comparative Politics, Political Theory, and International Politics will be offered. Students are required to take two proseminars.

Additional study is based on the specific interests of individual students. Graduate students may choose from among a variety of courses and research seminars offered on domestic and international political institutions as well as in a number of substantive public policy areas.

Master of Arts. The Department of Political Science offers a combined A.M./Ph.D.

For further information, please refer to the Department of Political Science website: http://www.brown.edu/Departments/Political_Science/

Courses of Instruction

Primarily for Undergraduates

1. (0010) Introduction to the American Political Process
   A focus on how types of political conflicts impact on politicians, groups, institutions, and the mass public. R. COBB and W. J. SCHILLER.

10. (0100) Introduction to Public Policy (Public Policy and American Institutions 10)
    Designed to help students make sense of major events in the world of government and public affairs. Various languages used to analyze public policy are reviewed before proceeding to an examination of the programs and coalitions that shape the distribution of policy benefits in the U.S. The major policy making process models are then considered and the course concludes with an evaluation of both policies and processes. R. E. CHEIT.

11. (0110) Introduction to Political Thought
    Why do laws made by other people have authority for me? Can it be fair for one person to be wealthier than another? How free should society be? Is sexism like racism? Such questions are explored through a careful reading of some classic texts in political philosophy, from the fourth century B.C.E. to the present. Enrollment limited. Written permission required. A. J. TEBBLE.

20. (0200) Introduction to Comparative Politics
    Designed to introduce students to the subfield of comparative politics, which compares political processes within states. Topics include types of regimes (i.e., democratic, authoritarian, totalitarian); transitions to democracy and collapse of democratic regimes; and revolutionary and ethnic challenges to the state. Cases drawn from Western and Eastern Europe, Latin America, the Mid-East, and other regions. M. C. CAMMETT.

22. (0220) City Politics (Urban Studies 22)
    Bosses, reformers, states, bureaucrats, politicians, the poor, the homeless, and the citizen. An introduction to the major themes of urban politics. Enrollment limited. J. A. MORONE.

40. (0400) Conflict and Cooperation in International Politics (International Relations 40)
    Analyzes sources of conflict and cooperation in world politics. Focuses on realist, liberal, constructivist, feminist, and Marxist interpretations. Considers issues of global security and international political economy during the Cold War and beyond. Concludes with evaluation of efforts to prevent ethnic and civil conflict in contemporary world politics and to strengthen international cooperation in resolving common global issues. P. T. HOPMANN.

50. (0500) Foundations of Political Analysis
    Examines the nature of knowledge claims in political science: how we know what we know and how certain we are. Alternative research schools, the nature of description and
explanation in political science, a unit covers basic issues of data analysis, substantive themes vary each year. This course is best taken in a student’s first or second year. A. S. ZUCKERMAN.

82. (0820) First Year Seminars
Enrollment limited. Written permission required.

For Undergraduates and Graduates

100. (1000) American Political Culture
Values, ideology, religious beliefs, myth and rituals sustain fundamental national attachments. The mechanisms include: the importance of written documents, the impact of individual and collective deaths, the power of symbols, and the creation of holidays, patriotic oaths, and memorials. How do leaders mobilize the public to sustain their commitment? Prerequisites: PS1 and/or PS50. R. COBB.

101. (1010) Topics in American Constitutional Law
(Public Policy and American Institutions 101)
This course will examine some of the basic issues involved in American Constitutional Law, focusing on how the Supreme Court has ruled in a number of areas. Our focus will be more on rights than the separation of powers, federalism, etc. Most readings will come from the casebook and supplement, though there will be a course packet of other cases. C. BRETTSCHEIDER.

102. (1020) Politics of the Illicit Global Economy (International Relations 102)
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 sectors of the illicit global economy across time and place, and evaluates the practice and politics of state regulatory efforts. Prerequisites: PS 40. P. R. ANDREAS.

103. (1030) Modern Political Thought
‘Modern Greats’: Locke, Rousseau, Kant, Mill, Tocqueville, Nietzsche, Rawls, MacIntyre. Topics include the foundations of individual and public morality, the ends of government, freedom and authority, civil society, justice, equality, virtue and the good life. Prerequisite: PS11 or the equivalent. S. KRAUSE.

105. (1050) Ethics and Public Policy (Public Policy and American Institutions 105)
Examines moral foundations of important policy issues in the American national context as well as at Brown. Considers the following questions: Is there a right to health care? When may politicians lie? What role should university students have in governing themselves? Through these issues, we hope to track the role ethical thinking plays in the conduct of public policy. Enrollment limited. Written permission required. THE STAFF.

108. (1080) Politics of Transportation Policy
(Public Policy and American Institutions 108)
Three transportation modes are emphasized: planes, trains, and automobiles. Three areas are investigated: key actors including Congress, pressure groups, relevant governmental agencies, and historical patterns of usage and current policy questions including safety and security concerns in aviation, problematic drivers. Background in the rudiments of American politics and the policy process. Prerequisites: PS 1 or 10. R. COBB.
109. (1090)  *Children and Public Policy* (Public Policy and American Institutions 109)
The political, social, and legal implications of various public policies concerning children. The emergence of children’s issues in contemporary politics. Emphasis on juvenile justice and child protective services. Prerequisites: PS 1 or 10. R. E. CHEIT.

110. (1100)  *Congress and Public Policy* (Public Policy and American Institutions 102)
How does Congress really work? Who holds power in Congress? How does Congress change when party control changes hands? Does Congress make a difference in policy outcomes? The structures governing both the House and the Senate and the interaction between them are examined as well as the overall relationship between Congress and the President. W. J. SCHILLER.

111. (1110)  *Mass Media* (Public Policy and American Institutions 112)
Dramatic changes are unfolding in the structure and operations of the U.S. media. We discuss how the media have changed over history; what the changes mean for American culture, society, and politics; and how we should evaluate the contemporary media. D. M. WEST.

112. (1120)  *Campaigns and Elections*
Analysis of campaigns and elections in the contemporary political process. Topics include the changing nature of campaigns, role of media, money, and issues in recent elections, and the significance of elections for the democratic process. J. LAWLESS.

114. (1140)  *Public Opinion and American Democracy* (Public Policy and American Institutions 114)
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. J. LAWLESS.

116. (1160)  *The Politics of the Legal System* (Public Policy and American Institutions 118)
A study of the American legal system, from both behavioral and normative perspectives. Not open to first-year students. THE STAFF.

118. (1180)  *The Problems of American Cities* (Urban Studies 118)
The politics of urban dilemmas in health care, poverty, pollution, housing, crime, finance, and planning placed in the context of individual American cities. Prerequisites: US 21 and PS 22. J. A. MORONE.

119. (1190)  *Federalism and Public Policy* (Public Policy and American Institutions 119)
Examines basic institutional structure of American federal system, features of modern intergovernmental relationships, and how recent changes in the American federal system have shaped policy-making activity at all levels of government. The course will focus upon theories of federalism and intergovernmental relationships, as well as how these theories generate insight into the nature of contemporary legal, political, and policy debates. S. ALLARD.

120. (1200)  *Policy Analysis and Program Evaluation* (Public Policy and American Institutions 120, Urban Studies 120)
Broad overview of public policy analysis and program evaluation with emphasis on methodological issues involved in the analysis and assessment of government programs. Illustrations are drawn from a variety of substantive policy areas. Prerequisite: PS10, PS160; SO110, or written permission of instructor. S. ALLARD.
121. (1210) *Latin American Politics*
Will introduce central theoretical issues and debates in the study of Latin American and comparative politics (i.e., liberalism, conservatism, developmentalism, pluralism, dependency, state theory); in-depth country case studies where issues and dynamics can be discussed and elaborated; introduce issues and problems of U.S. foreign policy toward Latin America. Prerequisites: PS 1, 11, or 20, or discretion of instructor. Enrollment limited. R. Snyder.

122. (1220) *Politics of the Post-Soviet States*
Why did the Soviet Union collapse and what has developed since 1991? Focuses on uncertain efforts to build democracy and a market economy in Russia. Divergent patterns of development in the post-Soviet states, including comparative success of the Baltics, reversions toward authoritarianism and the Islamic revival in Central Asia, and relations among post-Soviet states, Europe, and the US. L. J. Cook.

123. (1230) *Politics of the Eastern European States*
Comparative analysis of contemporary politics in post-Communist states of East-Central Europe: overview of Communist regimes and their collapse; focus on the post-1987 period of democratization and transition to markets in Poland, Hungary, and the Czech Republic; state disintegration; ethnic war in Yugoslavia. Issues: consolidation of democracy; social costs of economic reform; integration of East-Central European states into European Union; Western intervention in former Yugoslavia. L. J. Cook.

124. (1240) *Politics, Markets and States in Developing Countries*
How can we explain fundamental differences in economic performance and policy across developing countries? 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. R. Snyder.

127. *Political Economy* (Economics 125)
Interested students should register for Economics 125.

131. (1310) *African American Politics* (Ethnic Studies 131, Public Policy and American Institutions 131, Urban Studies 131)
Focuses on the role and participation of African Americans in American politics and government. Central objective is to assess the relative capacity of various governmental institutions, and the overall political system generally, to overcome challenges facing African American communities. K. Gamble.

Provides students with an understanding of the scope and nature of urbanization in America. The course describes the emergence of urban America; the modern city and the theories that have evolved to explain the politics of big cities; the nature of the urban condition with particular emphasis on the challenges faced by residents and government in the post-industrial city. M. E. Orr.

134. (1340) *Political and Economic History of Congress*
Course focuses on the political history of Congressional policymaking. From the 19th century through 2004. Will examine geographic, economic, and political forces that explain congressional policy in regulation of business, trade politics, welfare policy, and education. Software programs, such as Voteview, DW-Nominate, and Stata, that analyze congressional
behavior on a multi-dimensional level will be used. Prerequisite: PS 160 or PS 120. W. J. SCHILLER.

135. (1350) *Women and Politics* (Public Policy and American Institutions 135)
This course addresses why so few women hold public office, as well as what women’s numeric under-representation implies for democratic governance and public policy outcomes. We will focus on fundamental gender differences that affect the various steps of the political process, as well as the representational implications of any gender differences we uncover. J. LAWLESS.

Interested students should register for Africana Studies 141.

139. (1390) *International Organization and World Politics* (International Relations 134)
Examines the institutions and the processes by which states and other actors seek to provide “governance” in the international system. The first part examines history of, and theoretical perspectives on the role of international organizations in the state system. The second part considers their roles in a range of political, military, economic, environmental, and humanitarian issue. Prerequisite: PS 40. N. TANNENWALD.

140. (1400) *North Atlantic Politics After the Cold War: Europe, America, Transatlantic Relations* (International Relations 140)
Examines the contours of north Atlantic international politics through a variety of theoretical lenses. What courses have Europe and America taken since 1989? Which are they likely to take in the future? Is the north Atlantic community about to dissolve? Did it ever exist? Focus in on post-Cold War developments, but history and legacies of Cold War considered as well. U. KROTZ.

141. (1410) *Global Security After the Cold War* (International Relations 128)
Analyzes major contemporary issues of global security utilizing current theories of international politics, emphasizing both continuity and change in global security since the end of the Cold War. Issues examined include proliferation of weapons of mass destruction and of conventional weapons, terrorism, recent arms control and disarmament initiatives, and the changing role of alliances and regional and global security institutions. Written permission required. P. T. HOPMANN.

142. (1420) *International Political Economy of Development* (Development Studies 142, International Relations 132)
Examines alternative perspectives on the most important international issues in the political economy of Third World development. Part I considers basic theoretical approaches to the subject. Part II examines historical development of specific issues and controversies in North-South relations during the postwar era. THE STAFF.

144. *Politics and Finance* (Economics 180)
Interested students should register for Economics 180.

145. *Comparative Political Economy* (International Relations 141, Sociology 160)
Interested students should register for Sociology 160.

146. (1460) *International Political Economy†*
An introduction to the politics of international economic relations. Examines the history of international political economy and theoretical approaches to understanding it. Also analyzes several key contemporary issues in international institutions such as the International Monetary Fund and World Trade Organization, globalization and its consequences, and challenges in foreign economic policy-making. THE STAFF.
147. (1470) *International Negotiation and Conflict Resolution*
Analyze negotiation process in international diplomacy. Emphasizes how the process of conducting diplomatic negotiations has impacted outcomes of negotiations. Deals explicitly with the "art and science" of diplomatic negotiations as a means to resolve the conflicts and misunderstandings that are a ubiquitous feature of international relations. Primarily for students with some prior background in field of international politics/relations. Prerequisites: PS 40 or written permission. P. T. HOPMANN.

148. (1480) *Theories of International Relations in the Twentieth Century*
(International Relations 130)
Places major intellectual contributions to international relations during the 20th century in their appropriate historical context and considers the development of challenges and new theoretical syntheses. Gives particular attention to international security and political economy, but also considers formation of international political community and the global environment. Prerequisite: PS 40 recommended but not required. U. KROTZ.

149. *History and Theory of International Relations*
(International Relations 135)
Interested students should register for International Relations 135.

151. *Race, Empire and Modernity* (Africana Studies 180, Ethnic Studies 180)
Interested students should register for Africana Studies 180.

160. (1600) *Political Research Methods* (Public Policy and American Institutions 160, Urban Studies 160)
Introduction to basic research methods in political science. Topics include descriptive and inferential statistics, measurement, and survey design. Emphasis placed on understanding concepts of statistics and its relevance to the "real world." Enrollment limited. Written permission required. J. LAWLESS.

180. *Policy Implementation in Education* (Education 165, Public Policy and American Institutions 165)
Interested students should register for Education 165.

182. (1820) *Research Seminars*
Enrollment limited.

191-192. (1910-1920) *Senior Honors Thesis Preparation*
Students who have given evidence of superior work in political science may be admitted to honors on the basis of an application submitted in the spring of their junior year. Application and guide may be obtained from the Department of Political Science office. Written permission required. L. J. COOK.

193, 194. (1970, 1971) *Individual Reading and Research*
Primarily for Graduates

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. A. S. ZUCKERMAN.

202. (2020) *American Political Development*
J. A. MORONE.
204. (2040) American Political Behavior
Combination reading and research seminar, with two interrelated goals: first, familiarize students with recent research on American political behavior; second, give students an opportunity to pursue a sizable research project on a topic of their choosing within political behavior. Not open to undergraduates. W. SCHILLER.

206. (2060) Conflict and Cooperation in International Politics
Survey major developments in theory and empirical research related to the “security” dimension of international politics. Focuses on nature of international conflict, especially between state actors, and processes that may enhance cooperation in international interactions. Undergraduate seniors may enroll if they have the appropriate prerequisite: PS0148, PS0213 or permission of instructor. P. T. HOPMANN.

207. (2070) Black Political Participation
Topical issues in the political behavior of African Americans at the national level. Voter turnout and electoral choice, participation of blacks in major political parties, African American political culture, socialization, opinion, legislative behavior, and political leadership. Goal: to assess strengths and limitations of the research and literature on African American political behavior. Written permission required for undergraduates. M. E. ORR.

209. (2090) Research Seminars
Written permission required.

210. (2100) Proseminar in American Politics
Introduction to broad issues in American politics. Topics include the interplay of political institutions in the American setting, the process of policy-making, and the behavior of key actors in American politics. J. A. MORONE.

211. (2110) Proseminar in Comparative Politics
Provides a survey of major approaches, issues, and debates in the field of comparative politics. Topics: state, revolution, systems of representation and domination, etc. Works of theoretical importance on each topic, focusing on authors’ arguments and controversies within the literature. M. C. CAMMETT.

212. (2120) Proseminar in Political Theory I
An overview of contemporary political theory. We read leading interpretive works on the history of modern political thought; selections from contemporary writings on liberalism, critical theory, feminism, and postmodern thought; and several key works on political theory and public policy. For graduate students and advanced undergraduates with permission of the instructor. C. L. BRETTSCHEIDER.

213. (2130) Proseminar in International Relations
Development of theories of international political security, international political economy, international political community, and international political ecology are situated in their historical contexts during the last century. Major epistemological positions and debates are assessed, with special attention given to historical origins, antecedents, and contemporary directions. U. KROTZ.

214. (2140) Post Cold War Conflict
Course explores the nature and causes of post-Cold War conflict. We’ll discuss the end of the Cold War, prominent contemporary themes, including the spread of ethnic warfare and humanitarian intervention, the privatization of security provision, the proliferation of “transnational threats” such as cross-border crime, and the “clash of civilizations”, and an examination of terrorism. Written permission required. P. R. ANDREAS.
215. (2150) Democratic Theory, Justice, and the Law

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. C. L. Brettschneider.

217. (2170) Proseminar in Political Thought II

J. O. Tomasi.

218. (2180) Markets and States in Comparative Perspective

This course examines the interplay of politics, institutions, and markets to analyze the challenges of state intervention in the market from the 1950s to the 1990s, including the erosion of ideologies advocating state intervention and the pressures of globalization. It is concerned with the politics of economic development and market adjustments from a comparative perspective, including both advanced industrial and developing countries. Enrollment limited. Written permission required. P. J. Luong.

219. (2190) Welfare States in Old And New Democracies

Why and how were welfare states constructed? Why have they taken such a variety of forms? Can they survive the ongoing globalization of politics and markets? The course examines these questions, looking at explanations from statist-institutional, class-political, economic-developamental, and cultural perspectives, and focusing on international economic and institutional influences. Cases will be drawn from the United States, Western Europe, post-socialist Eastern Europe and Russia, and Latin America. L. J. Cook.

220. Institutions and Policymaking

(Public Policy and American Institutions 200)
Interested students should register for Public Policy and American Institutions 200.

221. (2210) Race, Ethnicity and Politics

K. Gamble.

223. Theory and Research in Development I

(Development Studies 200, Sociology 200)
Interested students should register for Development Studies 200.

224. Theory and Research in Development II

(Development Studies 201, Sociology 200)
Interested students should register for Development Studies 201.

226. (2260) The Politics of Issue Containment

How do decision makers avoid dealing with issues? Given time and resource constraints, what are the strategies used by officials in American politics to preclude discussion of new issues? R. Cobb.

259. (2590) Quantitative Research Methods

An introductory statistics course for graduate students. Includes descriptive and inferential statistics, sampling theory, levels of measurement, multivariate regression, and logit/probit analysis. Explores the use of statistics in many fields of political science and public policy including American institutions, comparative politics, and international relations. S. Allard.

287, 288. (2870, 2871) Field Survey and Research Design

A two-semester sequence that takes the form of an independent study directed by a tenure-line faculty member of the Department of Political Science. Only second-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.

289. (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. No course credit. P. J. LUONG.

291, 292. (2991) Thesis Research and Preparation
293. (2980) Individual Reading and Research
299. (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. No course credit. THE STAFF.

Population Studies and Training Center

Michael J. White, Professor of Sociology, Director.

The Population Studies and Training Center (PSTC) is a multidisciplinary unit organized to facilitate and strengthen research and graduate training in demography at Brown. Its core faculty associates are from the Departments of Sociology, Economics, and Anthropology. Other PSTC faculty are affiliated with the Brown Medical School, the Watson Institute for International Studies, and the Spatial Structures in the Social Sciences initiative. This combination has led to an extraordinarily dense network of collaborations both within and across disciplines. The PSTC is not only a source of infrastructure and research support for associated scientists, but also the nexus of intellectual activity for empirically driven and theoretically grounded scholars with population interests at Brown. The PSTC is a leader among demographic centers in several areas, including anthropological demography, multi-method data collection in the developing world, and the demography of Africa. The PSTC is also a key player in terms of the development of multi-method analysis and in the integration of demographic perspectives into the study of the process of economic development.

Faculty research at the PSTC is characterized by a wide subject matter scope and a portfolio of federal agency and private foundation awards for research in more than two dozen developed and developing country settings. Current research activities encompass topics across five signature thematic areas: spatial inquiry (particularly migration, social networks, urbanization, and innovative spatial methods), fertility and HIV/AIDS, the demography of families and households, social behavior and health, and population-environment links.

The PSTC provides a competitive interdisciplinary demography training program conducted in cooperation with the Ph.D. programs in Sociology, Anthropology, and Economics. The program is designed to prepare demography trainees to be successful scholars in their respective disciplines, and to give students the skills to successfully participate in the broad intellectual community of population studies. Degree requirements are described under the departmental listings, although all trainees are required to complete selected methods and interdisciplinary course requirements. Many PSTC students receive funding for their studies through Center training awards from NICHD and the Hewlett and
Compton Foundations. Those students who are not supported by PSTC fellowships obtain funding through research assistantships and support from the Graduate School. PSTC students also have an excellent record of obtaining competitive external support for their studies and research.

The PSTC is housed in the Cabinet Building on Brown’s center campus. The Cabinet Building provides offices for many affiliated faculty, as well as carrel space for funded students, a dramatically designed, state-of-the-art seminar room that accommodates 50, a small meeting room, and generous exhibit/function space. The PSTC supports both Windows/PC and UNIX platforms, including multi-processor Linux servers for computation, along with high-speed networking and ample file storage. Personal workstations are on each faculty and student desk and in a dedicated computer lab. All associates, staff and trainees have access to a full suite of the latest administrative, analytical, and data-management software.

The PSTC sponsors regular colloquia and occasional seminars and conferences, and the Center maintains and promotes professional linkages with population centers and organizations in the developing world, particularly in sub-Saharan Africa. These linkages have resulted in collaborative research opportunities, as well as ongoing visits and exchanges of scholars and students from other organizations.

Those interested in learning more about research and training activities at the PSTC should visit the Center’s website at www.pstc.brown.edu.

Portuguese and Brazilian Studies

Professors Almeida and Vieira; Professor-at-Large Cardoso; Associate Professors Dzidzienyo, Green and Valente (Chair); Senior Lecturer Simas-Almeida; Lecturer Sobral; Adjunct Professors Clemente and Monteiro; Adjunct Associate Professor Becker; Adjunct Assistant Professor Pacheco; Adjunct Lecturer Smith.

The Department of Portuguese and Brazilian Studies offers five degree programs: (1) Ph.D. degree in Portuguese and Brazilian Studies, (2) A.M. degree in Portuguese Bilingual Education and Cross-Cultural Studies or ESL Education and Cross-Cultural Studies, (3) A.M. degree in Brazilian Studies, (4) A.M. degree in Portuguese and Brazilian Studies and (5) A.B. degree in Portuguese and Brazilian Studies. The department’s programs focus on the global nature of the Portuguese-speaking world, as well on specific geographical areas: Continental and Insular Portugal, Brazil, Lusophone Africa, and Luso-America. Undergraduate and graduate students are able to work with a distinguished faculty committed to both research and teaching, and to take advantage of the extensive resources on the Portuguese-speaking world at the Rockefeller, John Hay, and John Carter Brown libraries. Besides offering academic programs in Portuguese language, Portuguese and Brazilian literature, history, and culture, and ESL/cross-cultural studies, the Department of Portuguese and Brazilian Studies extends its resources beyond the immediate university community by organizing a varied program of cultural events, including lectures, concerts, and symposia. Exchanges with Brazilian and Portuguese universities, the publication of books and two scholarly journals, and consultation in bilingual/ESL curricular and technical assistance exemplify the department’s broader social and educational contributions.

For more information, please visit our web page at: http://www.brown.edu/Departments/Portuguese_Brazilian_Studies/
Undergraduate Program

For a complete description of the standard concentration program leading to the A.B. degree, please visit: [http://www.brown.edu/Administration/Registrar/concentration.html](http://www.brown.edu/Administration/Registrar/concentration.html).

Graduate Programs

Doctor of Philosophy Degree in Portuguese and Brazilian Studies

The Ph.D. program in Portuguese and Brazilian Studies is advanced graduate study in the language, literatures and cultures of the Portuguese-Speaking World, with students concentrating on one or more of the following areas: Continental and Insular Portugal, Brazil, Lusophone Africa, the Republic of Cape Verde, and Luso-America. Students enrolled in this program are able to take advantage of the diverse expertise of the department’s faculty which embraces specializations in literature, language, philosophy, comparative literature, folklore, history, ethnic and cross-cultural studies, anthropology, and bilingual education. It is the department’s philosophy that all students grasp the comprehensive nature of the Portuguese-Speaking World and study its language, literatures, and cultures as well as apply the tools of research and scholarship to their individual programs of study. While this doctoral program allows for an interdisciplinary component, the emphasis of the core program is in the Portuguese language and Luso-Brazilian literature and culture.

Core Program: the standard route to the Ph.D. will be the successful completion of 16 courses, a general examination, a preliminary examination, a colloquium, and a dissertation.

Ph.D. candidates are expected to have achieved native or near-native fluency in Portuguese. A diagnostic oral and written language examination is taken during the first year. In addition, candidates should demonstrate reading ability in a second foreign language, which normally would be French, Spanish, Italian or German.

Doctoral candidates are required to present themselves for the following examinations: 1. General Examination: a four-hour written examination covering a reading list of approximately twenty basic works in the field, to be given at the start of the student’s third semester; 2. Preliminary examination: a two-day written in-depth examination on two broadly defined areas developed by the student in consultation with a committee made up of at least three faculty members, normally held at the conclusion of the student’s course work; the content of the exam will vary, depending on the student’s program, but part of the exam must be written in Portuguese and part in English; 3. Colloquium: an oral presentation on a specific topic of the student’s choice, open to all faculty and graduate students in the department, to be given within the semester following the in-depth examination. Upon completion of the colloquium, the student will be recommended to candidacy. The dissertation proposal should be submitted by the close of the semester following the colloquium. The dissertation may be written in English or in Portuguese.

Master of Arts Degree Program in Portuguese Bilingual Education and Cross-Cultural Studies or ESL Education and Cross-Cultural Studies

This interdisciplinary program offers graduate level study in advanced language and bilingual education for bilingual teachers of Portuguese as well as ESL training for teachers of ESL. Candidates possessing an A.B. degree and a teaching certificate may apply for admission to this graduate program with the aim of completing 8 graduate-level courses in
Portuguese Bilingual Education and Cross-Cultural Studies or 8 graduate-level courses in ESL Education and Cross-Cultural Studies.

Specific requirements for this two-track curriculum are:

**Portuguese Bilingual Education, and Cross-Cultural Studies Curriculum:**

1. One course in Bilingual Education Methodology (212, 01);
2. One course in Problems and Current Issues in Bilingual Education (202, 07);
3. One course in Foundations of Bilingual Education (201, 01);
4. Three Basic Required courses (160, Sec. 16; 202, 01; 202, 04 or 172);
5. Two other related courses to be selected from offerings in Portuguese and Brazilian, Education, Anthropology, Linguistics, Psychology and Sociology.
6. Bilingual Education candidates must take a written proficiency exam in Portuguese.

**ESL Education and Cross-Cultural Studies Curriculum:**

1. One course in ESL Methodology for Assessment and Evaluation (212, 03);
2. One course in Problems and Current Issues in E.S.L. (202, 02);
3. One course in Applied Linguistics for E.S.L. (202, 02) or Linguistic Theory and Practice (AN 280);
4. Three Basic Required courses (160, Sec. 16; 202, 01; 202, 04 or 172)
5. Two other related courses to be selected from offerings in Portuguese and Brazilian, Education, Anthropology, Linguistics, Psychology and Sociology.

All candidates must complete a master’s project in addition to their course work as well as deliver an oral presentation in English describing this project.

This graduate degree program does not provide candidates with elementary and secondary teaching certification. It does, however, offer specialization courses that will satisfy R.I. Bilingual and ESL state endorsement requirements. Candidates for this degree may be part-time or full-time. In case of the former, students are encouraged to complete at least two courses per semester thereby enabling them to complete their requirements in two years.

**Master of Arts Degree Program in Brazilian Studies**

This interdisciplinary degree program is designed to provide students as well as mature professionals holding an A.B. degree and possessing a reading and speaking knowledge of Portuguese, with a social science/humanities curriculum in Braziliana. The program offers graduate level training with special focus upon Brazil for careers in academia, foreign service, and international organizations including transnational business and foundations. Drawing upon a candidate’s knowledge of Portuguese, this program will develop a unique combination of linguistic and interdisciplinary skills via course offerings in English and Portuguese.

**Core Program:** Candidates will complete a program of 8 graduate courses. Each candidate will take a seminar in addition to two required courses in the social sciences, and two in the humanities component. Besides these 5 required courses, students will complete one 292 course as a culminating in-depth experience in their area of focus (social science or humanities). Students will thus round out their program with at least two electives in their field of interest. Consequently, for a student focusing upon the social sciences it is conceivable that, in addition to one seminar, he/she will be able to complete 5 courses in a field of interest. Students will be expected to complete at least 3 of their courses via the Portuguese language.
Master of Arts Degree Program in Portuguese and Brazilian Studies

This interdisciplinary degree program is designed to provide students as well as mature professionals holding an A.B. degree and possessing a reading and speaking knowledge of Portuguese, with a social science/humanities curriculum in Portuguese and Brazilian Studies. The program offers graduate level training with a focus on the Portuguese-speaking world.

Core Program: The requirements for this degree follow those of the A.M. in Brazilian Studies with the difference that students will be required to take at least three courses in Portuguese literature, history and culture and at least three courses in Brazilian literature, history and culture. Students will satisfy a Portuguese language proficiency requirement by taking PB 103 or passing a proficiency examination. As in the case of the other master’s degrees in the Department, a Master’s Project is required.

Master’s Degree in Course

Graduate students pursuing a doctorate in Portuguese and Brazilian Studies may apply to receive a master’s degree upon completion of the preliminary examination. Students selecting this option will not be required to write a Master’s Project.

Courses of Instruction

Primarily for Undergraduates

10-20. (0100-0200) Elementary Portuguese
Designed 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 year course; only in exceptional circumstances is credit given for one semester alone. P. I. SOBRAL and STAFF.

11. (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. P. I. SOBRAL and STAFF.

40. (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: PB 20, PB 11, or placement. Conducted in Portuguese. P. I. SOBRAL and STAFF.

61. (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: PB 40, placement or instructor’s permission. Conducted in Portuguese. P. I. SOBRAL.

62. (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: PB 40, placement or instructor’s permission. Conducted in Portuguese. L. SIMAS-ALMEIDA.

71. (0710) **Modern Brazil Goes to the Movies**
Looks at Brazil through the eye of the camera and focuses on topics such as migration, race relations, gender and family dynamics and social inequities in contemporary Brazilian culture and society. Students will read articles and critical essays relating to the themes of each film as they develop their oral and written language skills. Conducted in Portuguese. P. I. SOBRAL.

81. (0810) **Belonging and Displacement: Cross-Cultural Identities** (Ethnic Studies 81)
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, Scliar, Rushdie, Salih, Cristina Garcia, V. S. Naipaul and others. Conducted in English. Enrollment limited. Written permission required. P. I. SOBRAL.

97. **Gender and Sexuality in Latin America: From Colonial Times to the Present** (History 97)
Interested students should register for the appropriate section of History 97.

For Undergraduates and Graduates

103. (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. Conducted in Portuguese. L. SIMAS-ALMEIDA.

108. (1080) **Performing Brazil: Language, Theater, Culture**
Designed to deepen the students’ understanding of Brazilian culture and society through the performing arts. Students will read a series of plays and respond to them in a variety of ways: in writing, verbally, and through performance. The course will include poetry and music as these can also be performed. Throughout the semester students will also be working on creating their own performance pieces. Conducted in Portuguese. P. I. SOBRAL.

121. **Afro-Brazilians and the Brazilian Polity** (Africana Studies 121)
Interested students should register for Africana Studies 121.

150. (1500) **Topics and Themes in Portuguese and Brazilian Literatures**

(1500A) **African Literature of Portuguese Expression**
A survey of representative African narrative literature of Portuguese expression (Cape Verde, Guinea-Bissau, São Tomé e Príncipe, Angola, and Mozambique). The
selections will cover the periods before and after the independence of these former Portuguese colonies. Conducted in Portuguese. L. SIMAS-ALMEIDA.

(1500E) Contemporary and Brazilian Fiction: New Paths and New Perspectives
Selected prose narratives from the 1970s to the present are read with the aim of identifying new paths and perspectives in contemporary Brazilian literature and culture that challenge traditional literary and cultural hierarchies as well as canonized aesthetics. Milton Hatoum, João Gilberto Noll, Caio Fernando Abreu, Marilene Felinto, Sônia Coutinho, Roberto Drummond, Sérgio Sant’Anna, Rubem Fonseca, and others. Conducted in Portuguese. N. H. VIEIRA.

(1500H) Esthers of the Diaspora: Female Jewish Voices from Latin America
(Comparative Literature 142, Judaic Studies 104)
Fiction by and/or about Jewish women from Brazil, Argentina, Venezuela, Mexico, Chile, and Cuba. Evoking the image of the biblical Queen Esther who lived between two worlds, these Jewish voices will be discussed from the perspectives of feminist, hybrid, diasporic, and transcultural theories. Special attention to Brazil’s Clarice Lispector. The expression of the role of women vis-à-vis the immigrant experience will also be discussed. Conducted in English. N. H. VIEIRA.

Fiction and History (Comparative Literature 181)
Interested students should register for Comparative Literature 181.

(1500T) José Saramago and his Contemporaries
The Nobel Prize winner José Saramago will enjoy a leading place in our critical analysis of Portuguese contemporary novels. Other writers to be included are Lídia Jorge, António Lobo Antunes, Helder Macedo, Vergílio Ferreira, and Agustina Bessa Luis. Conducted in Portuguese. L. SIMAS-ALMEIDA.

(1500S) Portuguese Literature: From Birth to Maturity
Starting with the Cancioneiros, the course will travel from the Middle Ages to the Renaissance tracking down the evolution of Portuguese literature, while paying particular attention to the Portuguese-Galician troubadours, the crónicas of Fernão Lopes, the theater of Gil Vicente and the lyrical poetry of Camões. Conducted in Portuguese. L. SIMAS-ALMEIDA.

(1500N) 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 A. Garrett, Camilo C. Branco, and Eça de Queirós. Conducted in Portuguese. L. SIMAS-ALMEIDA.

(1500R) Twentieth-Century Portuguese Prose
Reading and textual analysis of some significant writers from Portugal, along with information related to their historical context. José Saramago, Lídia Jorge, Vergílio Ferreira, Helder Macedo, Agustina Bessa-Luís, and Rosa Lobato de Faria. Conducted in Portuguese. L. SIMAS-ALMEIDA.

152. The Shaping of World Views (University Courses 152)
Interested students should register for University Courses 152.

160. (1600) Topics and Themes in Portuguese and Brazilian Cultures and Civilizations
The Afro-Luso-Brazilian Triangle (Africana Studies 102, Ethnic Studies 165)
Interested students should register for Africana Studies 102.

Brazil and Africa in the Making of the Southern Atlantic World (History 195)
Interested students should register for History 195.

European Empires in the East (1500–1800): A Comparative Analysis (History 195)
Interested students should register for History 195.

European Empires in the East (1500–1800): A Comparative Analysis
(History 195)
Interested students should register for History 195.

Gender and Sexuality in Latin America (History 197)
Interested students should register for History 197.

Immigration in Southern Europe: The Case of Portugal (Sociology 187)
Focuses on new trends of international migration in Europe, particularly in Southern
Europe (Portugal, Spain, Italy and Greece), since the mid-1970s. Phases of
immigration and characteristics of flows; new geographies of migration; the economic
and social framework explaining migrations; new channels for migration;
immigration policies; and modes of social incorporation of immigrants. J. PEIXOTO.

Impact on Colonialism: Gender and Nationalism in India (Anthropology 137)
Interested students should register for Anthropology 137.

(1600P) The Last Empire: Portuguese Colonialism and Decolonization in
Comparative Perspective (International Relations 180)
Adopting a comparative perspective, the course gives special emphasis to political,
ideological and military dimensions of Portuguese rule in the African colonies. The
first part deals with the evolution of Portuguese colonialism since World War II. The
second part focuses on the process of decolonization after 1974, integrating the
dissolution of Portuguese Empire in the international context of the Cold War.
Conducted in English. L. N. RODRIGUES.

Mediterranean Jewish World(s) (History 112, Judaic Studies 109)
Interested students should register for History 112.

(1600K) On the Dawn of Modernity (Science and Society 160)
A look at the emergence of modernity and its conflicts with the classical world view
as revealed in the writings of the Portuguese navigators (XVth and XVIth centuries)
on their encounters with the non-European world. Readings will focus on fields such
as astronomy, cartography, geography, shipbuilding, and anthropology, as stepping
stones to the first scientific revolution. This literature has been practically unknown to
non-Portuguese readers. Conducted in English. O. T. ALMEIDA.

Politics, Culture and Life in Brazil Under Military Rule - 1964–1985 (History 197)
Interested students should register for History 197.

Portugal and the Discovery of the World (History 197)
Interested students should register for History 197.
Portuguese Overseas Encounters
A critical analysis of some classic Portuguese travel writings from the 15th to the 20th century. The readings include Zurara, Camões, Fernão Mendes Pinto, História Trágico-Marítima, Ramalho Ortigão, Raul Brandão, as well as the contemporary Pedro Rosa Mendes. Conducted in Portuguese. O. T. ALMEIDA.

(1600O) Power, Segregation and Mobility Under Late Portuguese Colonialism and Its Aftermath (Anthropology 124, Development Studies 180, International Relations 180)
Portuguese colonialism in Africa and Asia and its aftermath in light of contemporary anthropological theory and colonial/postcolonial studies. Also addresses migration and diaspora, both the Portuguese migrant colonies in the Americas and northern Europe, and the contemporary migrations into Portugal from the former colonies, China and South Asia. Documentaries and fiction broaden the presentation and discussion of main issues. Conducted in English. C. BASTOS.

The Struggle for Human Rights in Brazil: Democracy without Citizenship
(Latin American Studies 151, Development Studies 180, International Relations 180)
Interested students should register for Latin American Studies 151.

167. History of Brazil (History 167)
Interested students should register for History 167.

172. (1720) Literacy, Culture, and Schooling for the Language Minority Student
(Education 172)
Focuses on increasing awareness of the intersection of language and literacy, the sociocultural influences on literacy development, and the application of diverse strategies that support the acquisition of second-language literacy. Combines a theoretical exploration of literacy processes and methodological implications with a clinical requirement of four hours weekly in a second-language field-teaching practicum. Conducted in English. Enrollment limited. Written permission required. S. W. SMITH.

175. (1750) Language, Culture, and Society
Investigates the meanings of language, culture, and society and the interrelationship among them. Examines the functional and dysfunctional uses they can play in public education, particularly from the public school administrators' and teachers' viewpoints. Explores concerns directly related to the nature, quality, and future of English-as-a-Second-Language programs. Reflective activities, lectures, simulations, case studies, role plays, and small group discussions. Conducted in English. M. F. PACHECO.

180. (1800) Concentration Seminar in Portuguese and Brazilian Studies
An interdisciplinary seminar intended primarily for junior and senior concentrators in Portuguese and Brazilian Studies, but open to nonconcentrators and graduate students with consent of the instructor. May be repeated for credit with content changed. Conducted in Portuguese.

(1800E) The Brazilian Puzzle: Confronting the Post-Colonial Legacy
Brazilian intellectuals have often attempted to understand and explain the challenges in modern Brazilian society (political, economic, racial, educational) by pondering Brazil's Iberian roots and assessing the legacy of Portuguese colonialism. Manoel Bomfim, Sérgio Buarque de Holanda, Roberto daMattá, Gilberto Freyre, Vianna Moog, Caio Prado, Paulo Freire, Darcy Ribeiro, Oswald the Andrade, José Murilo de Carvalho. Conducted in Portuguese. L. F. VALENTE.
(1800B) Lusofonia: National Identities and Transnational Challenges
The creation of the Commonwealth of Portuguese-Speaking Countries has reignited debate concerning the roots, history, contemporary developments, and future prospects of the Portuguese-speaking world. Focuses on key issues regarding the identities of the Portuguese-speaking nations, their interrelations, and their interactions with the wider world. A. de Quental, T. de Pascoais, Pessoa, G. Freyre, S. Buarque de Holanda, Vianna Moog, A. Sérgio, E. Lourenço, A. Cabral, and R. DaMattá. Conducted in Portuguese. O. T. ALMEIDA.

(1800F) The Lusophone World and the Struggle for Modernity
A study of classical writings from the Portuguese-speaking world dealing with the issue of modernity, focusing particularly on the Counter-Reformation and Baroque paradigms versus the Enlightenment. Portuguese, Brazilian and African writers such as Antero de Quental, Sérgio Buarque de Holanda, Vianna Moog, Amilcar Cabral and others will be read critically and in a comparative approach. Conducted in Portuguese. O. T. ALMEIDA.

193, 194. (1990) Research and Preparation of Honors Projects
This independent study course is designed for students working on honors projects. Written permission of the concentration advisor (Prof. Sobral) is required.

198. (1970) Reading and Guided Study

Primarily for Graduates

201. (2010) Foundations of Bilingual Education

(2010A) Language Theory and Curriculum Development
Focuses on the application of language theory, methodology, and curriculum development procedure for classes enrolling English language learners. Participants focus on setting essential goals and objectives aligned with learning standards and develop appropriate curricula in several subject areas. Conducted in English. M. F. PACHECO.


(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. M. F. PACHECO.

(2020C) Educational Leadership in Diverse Settings: Research, Policy, and Practice (Education 202, Ethnic Studies 202, Public Policy and American Institutions 210)
A series of lectures and discussions representing various perspectives and styles. Individual sessions focus on leadership issues surrounding standards, high stakes testing, and school reform initiatives. Most topics address leadership for low performing schools and for diverse student populations. Discussions led by prominent educational leaders. Some lectures may be open to the public. Conducted in English. A. BECKER.

Problems and Current Issues in Bilingual/ESL Education
(2020D) *Theories in First and Second Language Acquisition*
Theory and current research relating to first and second language acquisition and learning are examined from a pedagogical perspective. Focuses on both learning and teaching a second language. Conducted in English. S. W. SMITH.

212. (2120) *Methods and Materials for Portuguese-English Bilingual Programs*

(2120A) *Methodology for Assessment and Evaluation*
An overview of the current principles, practices, and approaches that inform assessment and evaluation for English language learners. Participants engage in class activities that duplicate selected assessment approaches and identify strategies for integrating assessment with planning and instruction appropriate to the language proficiency of students. Participants explore assessment research and theoretical background for an understanding of the complexity of evaluating student achievement. Conducted in English. S. W. SMITH.

250. (2500) *Topics and Themes*

(2500H) *The City and the Street: Tradition, Modernity and Human Subjectivity in Brazilian Urban Literature*
From Machado de Assis’s streetcar chronicles, João do Rio’s belle-époque flâneur crônicas, and modernists’ views of São Paulo down to the urban paranoia of Rubem Fonseca’s crime narratives and the destabilizing subjectivities of contemporary writers, this seminar examines diverse urban bodies and cartographies for understanding spatial and temporal relationships between the city and bodies, sexual cultures, gender roles, violence, peripheries, and metropolitan apocalyptic tensions. Conducted in Portuguese. N. H. VIEIRA.

(2500G) *Nation and Narration*
The invention and transformation of the idea of Brazil as a nation narrative texts since the middle of the 19th century. Manuel Antônio de Almeida, José de Alencar, Adolfo Caminha, Machado de Assis, Monteiro Lobato, Mário de Andrade, Adalzira Bittencourt, Antônio Callado and João Ubaldo Ribeiro. Theoretical texts by Benedict Anderson, Homi Bhabha, Edward Said, Eric Hobsbawn, Frantz Fanon, Roberto Schwarz and others. Conducted in Portuguese. L. F. VALENTE.

(2500F) *Tales of the “Sertão”*
The reality and mythology of the “sertão” have long been a source of inspiration for Brazilian writers, visual artists, and filmmakers. This seminar considers the transformations of the “sertão” motif since the second half of the nineteenth century. Fiction by José de Alencar, Euclides da Cunha, Graciliano Ramos and João Guimarães Rosa. Films by Glauber Rocha and José Araújo. Conducted in Portuguese. L. F. VALENTE.
260. (2600) Topics and Themes

(2600P) Fernando Pessoa and Co.
An analysis of key writings by the major Portuguese Modernist poet Fernando Pessoa, as well as by his more important heteronyms, particularly Alvaro de Campos, Alberto Caeiro, Ricardo Reis, and António Mora. The course will emphasize the recurrent themes of identity, divided self, meaning, disquietude, and displacement. Conducted in Portuguese. O. T. ALMEIDA.

(2600J) The “I” of the Beholder: The Autobiographical Mode in Modern Brazilian Fiction
Analyzes first-person fictional narration and the ethics of self-examination, self-display and self-invention. Examines questions of truth in fiction, the self and the other, autobiographical theory, and the concept of witnessing and reporting in relation to self-representation. Mário de Andrade, Cyro dos Anjos, Antônio Olavo Pereira, Clarice Lispector, Lygia Fagundes Telles, Helena Parente Cunha, Rubem Fonseca, Sérgio Sant’Anna and Bernardo de Carvalho. Conducted in Portuguese. N. H. VIEIRA.

(2600I) Modern and Contemporary Brazilian Poetry
An intensive reading of selected Brazilian poets of the past eighty years, including Carlos Drummond de Andrade, João Cabral de Melo Neto, Mário Faustino, Paulo Leminski, Ana Cristina César, Paulo Henriques Britto, and Salgado Maranhão. Each student will be responsible for an oral presentation about an additional poet, to be chosen in consultation with the instructor. The course will conclude with a poetry festival. Conducted in Portuguese. L. F. VALENTE.

(2600O) The Sage of Suspicion: Machado de Assis and the Agencies of Narrative
Novels and short stories of Machado de Assis within the context of the socio-political reality of nineteenth-century Brazil. Attention to the ideologies of Brazil’s ruling class, its self-image and views on national identity, class and race; the issue of fiction vs. reality; and/or such topics as irony, symbolism, and narratology. Conducted in Portuguese. N. H. VIEIRA.

289. (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. No course credit. THE STAFF.

291, 292. (2980) Reading and Guided Study
Reading in Portuguese language, literature, civilization, and bilingual studies. Conducted via Portuguese readings and discussions.

299. (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. No course credit.

Psychology

Professors P. Blough (Research), R. Burwell, M. Carskadon (Adjunct), R. Church, C. García Coll, B. Hayden, J. Krueger, A. Simmons, J. Wincze (Adjunct), B. Wooten; Emeritus Professors D. Blough, T. Davids, T. Engen, F. Jones, J. Kling, L. Lipsitt, L. Riggs, B. Shepp, E. Siqueland; Associate Professors R. Colwill, W. Heindel (Chair), L. Welch, J. Wright; Assistant Professor T. Sheehan.
Undergraduate Programs

The Department of Psychology offers either an A.B. or Sc.B. degree. Either degree prepares a student for graduate study in psychology. The Sc.B. degree provides additional background in sciences that are closely related to psychology.

For a complete description of the following standard concentration programs leading to the bachelor’s degree please visit:
http://www.brown.edu/Administration/Registrar/concentration.html

Psychology

Graduate Program

Admission to the Graduate Program usually is limited to candidates for the doctoral degree. In addition to the general university requirements, candidates for the degree of Ph.D. develop an individual program of course work in conjunction with his/her faculty committee.

Each program must include (1) one course in each of three different areas of psychology, (2) courses in quantitative methods, and (3) courses in a field of specialization. In addition, a candidate must complete two major research projects and write a preliminary examination. Potential applicants should write to the chairperson for a brochure describing the program in more detail.

For additional information about the Department of Psychology please visit the department’s website: http://www.brown.edu/Departments/Psychology/

Courses of Instruction

Primarily for Undergraduates

1. (0010) Elementary Psychology: An Introduction to Mind and Behavior
A survey covering the roles of inherited and environmental determinants of human behavior. Topics include sensation, perception, learning, memory, motivation, emotion, neural processes, language, social development, personality assessment, obedience, interpersonal attraction, and the diagnosis, origins, and treatment of mental illness. Laboratory sections illustrate methodologies used to study these issues. Topic selection varies with instructor. B. R. WOOTEN.

9. (0090) Quantitative Methods in Psychology
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. J. C. WRIGHT.

19. (0190) First Year Seminar

21. (0210) 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. Prerequisite: PY 1. J. I. KRUEGER.
27. (0270) **Perception**
The experimental and theoretical literature dealing with all aspects of the perceptual process. Specific topics include the perception of color, form, motion, and depth. Demonstrations are used to illustrate phenomena. Prerequisite: PY 1. B. R. WOOTEN.

30. (0300) **Personality**
A survey of the major perspectives (psychoanalytic, behavioral, humanistic, etc.) within theories of personality. Particular emphasis is placed on the integration of research and theory. Sections. Prerequisite: PY 1. B. C. HAYDEN.

44. (0440) **Perception and Mind** (Cognitive and Linguistic Sciences 44)
How do the mind and 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 related to other cognitive systems.

47. (0470) **Brain Damage and the Mind**
Brain damage in human subjects 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. 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. W. C. HEINDEL.

50. (0500) **Mechanisms of Animal Behavior** (BioMed-Neuroscience 50)
An examination of physiological and evolutionary mechanisms underlying species-specific behavior in both vertebrate and invertebrate animals. Topics include: evolution and mechanisms of sensory systems, modes of locomotion, orientation and navigation, communication, and cognitive capacities of animals. A. M. SIMMONS.

55. (0550) **Introduction to Sleep**
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? M. A. CARSKADON.

63. **Children's Thinking: The Nature of Cognitive Development** (Cognitive and Linguistic Sciences 63)
Interested students should register for Cognitive and Linguistic Sciences 63.

75. (0750) **Principles of Behavioral Neuroscience**
A lecture course that covers the bodily systems that underlie motivated behavior. Topics include the autonomic nervous system, drugs and behavior, hormones and behavior, reproductive physiology/behavior, homeostasis, biological rhythms, emotions and stress, the neurobiology of mental disorders, and biological perspectives on learning and memory. Does not cover synaptic transmission or sensory processing and perception. Prerequisite: BN 1 or the equivalent. R. D. BURWELL.

88. **Developmental Issues in Human Trauma and Coping**‡ (Education 88)
Interested students should register for Education 88.
90. (0900) Learning and Conditioning†
Presents classical and contemporary approaches to the study of the prediction and control of behavior. Emphasizes theories and data derived from studies of Pavlovian conditioning and instrumental learning with nonhuman animals, but also considers implications for human behavior (e.g., drug-dependent behaviors, eating disorders, behavior modification and psychopathologies). Prerequisite PY 1.

For Undergraduates and Graduates

102. (1020) Psychophysiology of Sleep and Dreams
Overview of sleep, biological timing, dreaming, and sleep disorders. Topics include physiology of NREM and REM sleep, circadian rhythms, determinants and measurement of daytime sleepiness, development and phylogeny, dreaming, and sleep functions. Biological bases and behavioral concomitants of sleep disorders are assessed. Prerequisites: PY 1 and BN 1 or PY 50, or other background in NREM science or physiology. Students who have taken PY 55 should not take this course. Enrollment limited. Written permission required. M. A. Carskadon.

103. (1030) Techniques in Physiological Psychology
Laboratory course for advanced students in physiological psychology or neuroscience. Students observe brain sections, conduct neuroanatomical studies, learn about histochemical staining techniques, study the effects of stress on memory, record neuron activity and examine effects of psychomimetic and analgesic compounds on behavior in rats, and examine correlations between emotional states and changes in electrical skin conductance in humans. Prerequisites: PY 1 and 9, BN 1, or PY 75. Enrollment limited. Written permission required. R. D. Burwell.

104. (1040) Hormones and Behavior
Examines the neuroanatomical substrates and cellular mechanisms through which hormones influence development and behavior. Topics covered include sexual differentiation and behavior, parental behavior, the stress response, and ingestive behavior. Focuses primarily on evidence obtained from studies of nonhuman animals. Some basic background in the field of behavioral neuroscience is assumed. Prerequisites: PY75 or BN1.

107. (1070) Psychological Theory†
An examination of types of explanations used in psychology, with an emphasis on quantitative models of perception, learning, and motivation. Students implement models on a computer and compare theoretical predictions to observed facts. No previous experience with computers assumed; students will learn to implement and develop theories based upon spreadsheets. R. M. Church.

109. (1090) Research Methods in Psychology
This advanced laboratory course will cover research design issues geared for students interested in the Psychology Honors Research program but is open to others. Methods covered will include observation, experimentation, interview, questionnaire, rate scales, content analysis, and case study. Students will design and conduct research projects, give oral presentations, and prepare written reports. Enrollment limited. Written permission required. L. Welch.

111. (1110) Personality and Clinical Assessment
Examines methods used in the study of child and adult personality, including microanalysis of social interactions, observer report, self report, test data, and life outcome data. Standardized personality assessment instruments will be examined in the context of their reliability,
predictive and construct validity. Students will design research projects using these methods, collect and analyze data, give oral presentations, and prepare a written report of their research. Prerequisites: PY 1, PY 9, PY 30 (i.e., Introductory, Quantitative Methods, Personality). Enrollment limited. Written permission required. J. C. WRIGHT.

119. (1190) Human Sensory Processing†
A combination of lecture and laboratory introducing modern empirical methods of studying human perception. Uses the perception of sounds as examples. Lectures develop the theoretical bases for understanding hearing while laboratories demonstrate particular auditory phenomena. Throughout, stresses the relationship of overt sensory phenomena to their underlying neural bases. Prerequisite: PY 1 or BN 1. Written permission required. A. M. SIMMONS.

120. (1200) Experimental Analysis of Animal Behavior and Cognition
A laboratory course on the prediction, control, and explanation of the behavior of animals in simple environments. Written permission required. R. M. CHURCH.

121. Stress and Disease (BioMed-Community Health 121)
Interested students should register for BioMed-Community Health 121.

130. Behavioral Medicine†
Many health problems are essentially behavioral problems that are markedly affected by dietary habits, smoking, drinking, drugs, and exercise. In each case, evidence from original studies is evaluated and general explanations for the relationship between behavior and health is developed. Prerequisite: PY 9.

133. (1330) 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. Prerequisite: PY 1, 30. B. C. HAYDEN.

141. Human Resilience†
This course explores answers to the question of what enables some individuals to escape the worst psychological consequences of extreme personal disruption caused by a range of human-made and natural disasters. It examines personal accounts, pertinent psychological research, theoretical discussions, and the creative works of catastrophe survivors. Prerequisites: PY 1, PY 21, PY 30. Written permission required. S/NC. F. JONES.

145. (1450) 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, conservation issues, enrichment programs for captive species and conditioning procedures for managing zoo and shelter animals. Prerequisites: PY 19 (Animal Minds) or PY 50 or BI 45. Enrollment limited. Written permission required. R. M. COLWILL.

152. Thinking (Cognitive and Linguistic Sciences 152)
Interested students should register for Cognitive and Linguistic Sciences 152.

153. Laboratory in Cognitive Processes
(Cognitive and Linguistic Sciences 153)
Interested students should register for Cognitive and Linguistic Sciences 153.

154. (1540) Laboratory in Social Cognition
Examines principles of experimental design and analysis in the context of classic and contemporary research in social cognition. Students replicate and extend several studies on top-
ics such as person perception, social stereotyping, or judgment and decision making. Students will participate in the design of these studies, gather their own data, analyze them, and report the findings in oral presentations and written reports. Prerequisites: PY1, 9 and 21. Obtain permission in Hunter Rm. 273. Enrollment limited. Written permission required. J. I. KRUEGER.

170. (1700) Behavior Modification
Examines basic principles of learning theory as applied to the development and change of human behavior. Topics include: experimental design in clinical research, addictive behavior, fear and anxiety reduction, cognitive behavior modification, self management, child behavior modification, and clinical therapy. Prerequisites: PY 1, PY 30 or PY 33. Enrollment limited. Written permission required. J. P. WINCZE.

171. History and Theories of Child Development (Education 171)
Interested students should register for Education 171.

172. (1720) Stereotyping and Intergroup Relations
Introduces classic theories of prejudice and stereotyping (e.g., psychoanalytic or sociological theories) and then focuses on cognition-based approaches to stereotype formation and change. Central aspects of stereotyping (e.g., in-group bias, perceptions of group homogeneity) are examined with respect to person perception and intergroup conflict. Models of peacemaking (contact, cooperation) are discussed. Prerequisite: PY 21, advanced lab. Enrollment limited. Written permission required. J. I. KRUEGER.

173. Seminar in Social Development: Emotion and Cognition†
Much of contemporary cognitive and social psychology has been dominated by an information processing paradigm in which the computer serves as a metaphor for the human mind. Despite advances this perspective has generated, it emphasizes the logical nature of human thought while neglecting needs, values, and other “hot” factors. This seminar examines efforts to integrate emotion into cognitive models and considers how emotion and cognition influence each other. Prerequisites: PY 1.

174. (1740) Relationships and Human Development
Explores formation and maintenance of relationships across childhood and early adulthood, as well as their importance for the development of social-emotional competence. Topics include: early caregiver-child relationships, peer relationships emerging in the school years, relationships with significant adults outside the family, family relationships and functioning, and marital relationships. Also considers approaches to intervention, particularly with respect to peer relationships. Enrollment limited. Written permission required. R. SEIFER.

175. (1750) Topics in Animal Behavior†
An advanced seminar on special topics in animal behavior stressing both ethological and physiological influences on species-specific behaviors. Specific topics—for example, animal communication, organism-environment interactions, canid behavior, and development of brain and behavior—vary with instructor.

176. Contemporary Social Problems: Views from Human Development and Education (Education 175, Ethnic Studies 175)
Interested students should register for Education 175.

178. (1780) Psychological Acoustics (Cognitive and Linguistic Sciences 178)
Intended for psychology and cognitive and linguistic concentrators. Examines the auditory system in depth. Includes some facts about physical acoustics, signal analysis, physiology, and perception. Initial introduction of psychoacoustics leads to the presentation and
discussion of more complex processes and current areas of research. Topics include auditory spatial location, masking, pitch, and signal detection theory, auditory scene analysis and event perception. Enrollment limited. Written permission required. L. M. HELLER.

179. (1790) *Psychology of Timing†*
Topics include temporal perception, memory, and preferences; cognitive, biological, and quantitative theories of timing; biological rhythms; pharmacological influences on time perception and timed performance; altered timing in abnormal states; and timing in sports and music. Prerequisites: PY 9 (or equivalent); laboratory course in psychology (or equivalent). Enrollment limited. Written permission required. R. M. CHURCH.

181. (1810) *Seminar in Cognitive Neuroscience†*
Cognitive neuroscience, which deals with higher mental functions, has informed and guided many of the recent advances in our understanding of the brain mechanisms underlying cognition. This course utilizes the visual system as a model for examining how the brain acquires knowledge about the external world. Emphasizes learning, memory, and attention. Prerequisite: laboratory course in psychology, neuroscience, or linguistics/cognitive science. Enrollment limited. Written permission required.

182. (1820) *Cognitive Neuroscience of Emotion*
Topics discussed in this course include: visual attention, awareness, emotional perception, and emotional memory. Classes will be structured around the discussion of current papers in the literature. Active participation in class is required, including the presentation of papers from the literature. Enrollment limited. STAFF.

184. (1840) *Functional Magnetic Resonance Imaging: Theory and Practice*
This combined lecture and laboratory course will focus on the theory and implementation of functional MRI. The underlying physics, statistical analysis, and design considerations related to functional MRI will be discussed. In small groups, students will design and conduct a pilot functional MRI experiment. Students must have availability 1–5pm Tuesday or Sunday (only in November/December) to conduct the MRI experiments. Enrollment limited. Written permission required. STAFF.

186. (1860) *Topics in Visual Perception*
Topics vary from year to year: examples include motion perception, depth perception, spatial vision, visual attention. Class will be structured around discussion of current research articles. Prerequisite: PY 1.

*Auditory Visual Interaction* (Cognitive and Linguistic Sciences 186)
Interested students should register for Cognitive and Linguistic Sciences 186.

*Topics in Visual Perception*
Enrollment limited. L. WELCH.

187. (1870) *Seminar in Physiological Psychology*
Research articles focusing on the neural regulation of behavior are discussed, with an emphasis on experimentation in animal models. Topics vary from year to year but may include the neural and molecular mechanisms regulating social behaviors, the mechanisms and site of action of drugs of abuse, development of neural systems, sensory information processing and genetic analysis of behavior. Prerequisites: BN 1 or PY 75 and an advanced lab. Enrollment limited. Written permission required. T. P. SHEEHAN.
192. (1920) History of Modern Psychology
Examines the origins of the major specialty areas (e.g., clinical, social, experimental) and theoretical orientations (e.g., behavioral, psychoanalytical, cognitive) of modern psychology with particular attention to the social and political conditions in which these developments occurred. J. W. KLING.

193. American Higher Education in Historical Context
(Education 173, History 196)
Interested students should register for Education 173.

197. (1970) Special Topics in Psychology
Provides an opportunity for advanced students to read intensively beyond the subject matter provided in regularly scheduled courses. Written work required. Enrollment limited to junior or senior psychology concentrators. Prerequisites: PY 1, plus at least three other psychology courses, and a psychology department sponsor. May not be taken more than once for concentration credit.

199. (1990) Experimental Problems
Provides opportunity for advanced students to conduct research. With the guidance of their sponsor, students develop research plans, carry out a project, and analyze data. Written work required. Not to be used solely for assisting in ongoing research. Students seek a sponsor and arrange the course before the term begins. Required of senior honors and Sc.B. candidates. May not be taken more than once for concentration credit.

Primarily for Graduates

200, 201. (2000, 2010) Introduction to Psychological Research
Required of and restricted to graduate students in their first and second semesters of graduate study. S/NC.

202. (2020) Quantitative Methods in Psychology
Methods of analysis and models of psychological processes. Topics include signal detection theory, scalar timing theory, reaction time, and multidimensional scaling. Appropriate computer techniques introduced. D. S. BLOUGH and R. M. CHURCH.

203. (2030) Research in Experimental Psychology
Required of and restricted to Graduate Students.

205. (2050) Practicum in Teaching
Each student is assigned to one or two laboratory sections, and given increasing responsibility for supervision of the laboratory work, giving lectures under supervision, and reading reports. Course is repeated with progression from elementary to advanced courses. May be repeated for credit. S/NC.

206. (2060) Experimental Design (Cognitive and Linguistic Sciences 167)
The course designed for students at the intermediate level or above and will cover t-tests, power analysis, correlation, simple and multiple linear regression, logistic regression, analysis or variance, non-parametric tests, randomization and bootstrapping, among others. STAFF.

207. (2070) Graduate Core in Learning and Cognition
A survey of classical experiments, important principles, and contemporary theories of associative learning and animal cognition. R. M. CHURCH.
210. (2100) **Graduate Seminar in Vision**
Selected topics in vision, including optics of the eye, anatomy of the visual system, photochemistry of vision, psychophysics of color, acuity, models of color vision, and light as a visual stimulus. Specific topics vary.

215. (2150) **Experimental Psychology: Sensation, Perception and Memory†**

216. (2160) **Experimental Psychology: Learning, Motivation and Methods†**
R. M. CHURCH.

220. (2200) **Graduate Core in Social Psychology**
A survey of classic and contemporary research in social psychology, including attitude formation and change, person and self perception, stereotyping, and intergroup relations.
J. I. KRUEGER.

227. (2270) **Graduate Core in the Neural Basis of Behavior**
Lectures examining the neural mechanisms of sensory information processing, motor control, learning and memory, attention, language, and plasticity in neural and behavioral development.
A. M. SIMMONS.

228. (2280) **Seminar: Molecular Basis of Behavior**
This graduate seminar focuses on the emerging integration between molecular neurobiology and behavioral neuroscience. Current research investigating cellular and molecular mechanisms in the central nervous system that regulate various behaviors in nonhuman animals will be discussed. Particular emphasis will be placed on research utilizing methods of genetic manipulation (inducible transgenics, conditional knockouts, viral vector-mediated gene transfer, etc.) in conjunction with behavioral analyses. A basic background in the neural regulation of behavior will be assumed, and some familiarity with molecular biology would be beneficial though not essential.
T. P. SHEEHAN.

232. (2320) **Graduate Seminar in Learning**
Advanced topics in animal and human learning. Topics vary from year to year; examples include theories of associative learning, animal cognition, computational models of learning and performance, and neurobiological models of basic associative processes.

240. (2400) **Graduate Core in Perception**
Seminar on selected topics in vision, including optics of the eye, anatomy of the visual system, photochemistry of vision, psychophysics of color, acuity, models of color vision, and light as a visual stimulus.
L. WELCH.

255. (2550) **The Mind Asleep**
Seminar on selected topics in sleep, incorporating the core disciplines of psychology (Behavioral Neuroscience, Sensation and Perception, Cognitive Processes, and Social). Discussion based classes will examine sleep and affect/mood, dreaming, sleep and learning and memory, sensation/perception processes during sleep, effects of sleep deprivation and sleep disorders. Written permission required.
M. A. CARSKADON.

289. (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. No course credit.

299. (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. No course credit.
Public Policy and American Institutions

Professors Kaestle, Orr, Spoehr, West (Director), Wong; Associate Professors Cheit, Schiller, Tyler; Assistant Professors Aizer, Allard, Brettschneider, Harrington, Knight, Lawless, Miller (Research); Lecturer Clifton (Assistant Director of Administration and Programs); Visiting Lecturer McGuigan; Adjunct Assistant Professors Allen, Flanders, Heenen, Luong, Maresco, Marino; Adjunct Lecturers Combs (Research Administrator), Slattery-Bownds (Manager for Career and Employment Development).

The A. Alfred Taubman Center for Public Policy and American Institutions, established in 1984, offers an undergraduate concentration in Public Policy and American Institutions which is designed to improve understanding of the impact of government, and master’s programs in public policy and public affairs that train students to draw upon concepts from political science, law, economics, education, community health, urban studies, and sociology to develop innovative solutions for issues of real-world significance.

Undergraduates in the concentration are required to take a series of core courses in public policy, economics, statistics, ethics, and policy analysis. Although not required, internships in public sector agencies are strongly encouraged as part of the concentration. Where appropriate, financial support is provided to students engaged in educationally relevant internships.

Graduate students in each of the master’s programs are required to complete coursework in institutions, public budgeting and management, economics, statistics, and policy analysis. Master of Public Policy students are also required to complete a research workshop, social science data technologies course, and an internship in a policy-focused field of their choosing.

The center also encourages Brown University faculty and students to engage in research on important public policy problems. Engaged in an active research agenda, external grantsmanship, and community service, the current center faculty is pursuing this theme in a variety of different problem areas including urban policy, health care, education policy, law, and technology policy. The center periodically distributes the results of research conducted by its faculty and students. The center’s faculty has gained national recognition for its teaching excellence and high quality research.

Undergraduate and Graduate Programs

For a complete description of the standard concentration program leading to the A.B. degree, and the graduate requirements leading to the M.P.P. and M.P.A. degrees, please see the Taubman Center website: http://www.brown.edu/Departments/Taubman_Center/.

Courses of Instruction

Primarily for Undergraduates

10. Introduction to Public Policy (Political Science 10)

Interested students should register for Political Science 10.
70. (0700) First Year Seminars
Enrollment limited. Written permission required.

For Undergraduates and Graduates

101. Topics in American Constitutional Law (Political Science 101)
Interested students should register for Political Science 101.

102. Congress and Public Policy (Political Science 110)
Interested students should register for Political Science 110.

103. Organizational Theories of the Public and Private Sectors (Sociology 103)

104. Methods of Research in Organizations (Sociology 105)

105. Ethics and Public Policy (Political Science 105)
Interested students should register for Political Science 105.

107. The American Presidency
(Public Policy and American Institutions 113, Education 113)
Interested students should register for Public Policy and American Institutions 113.

108. Politics of Transportation Policy (Political Science 108)
Interested students should register for Political Science 108.

109. Children and Public Policy (Political Science 109)
Interested students should register for Political Science 109.

110. Introductory Statistics for Social Research (Sociology 110, Urban Studies 110)
Interested students should register for Sociology 110.

111. Introductory Statistics for Education Research and Policy Analysis (Education 111, Urban Studies 111)
Interested students should register for Education 111.

112. Mass Media (Political Science 111)
Interested students should register for Political Science 111.

113. Analyzing Education Policy: Lessons from Economics (Education 113)
Interested students should register for Education 113.

114. Public Opinion and American Democracy (Political Science 114)
Interested students should register for Political Science 114.

116. Evaluating the Impact of Social Programs (Education 116)
Interested students should register for Education 116.

118. The Politics of the Legal System (Political Science 116)
Interested students should register for Political Science 116.

119. Federalism and Public Policy (Political Science 119)
Interested students should register for Political Science 119.

120. (1200) Policy Analysis and Program Evaluation (Political Science 120)
Broad overview of public policy analysis and program evaluation with emphasis on methodological issues involved in the analysis and assessment of government programs. Illustrations are drawn from a variety of substantive policy areas. Prerequisite: PS 10 and PS 160 or ED 111 or written permission of instructor. STAFF.


135. *Women and Politics* (Political Science 135) Interested students should register for Political Science 135.


165. *Policy Implementation in Education* (Education 165, Political Science 180) Interested students should register for Education 165.

170. (1700) *Junior/Senior Seminar in Public Policy* Enrollment limited. Written permission required.

176. *Education and Public Policy* (Education 176) Interested students should register for Education 176.

190-191. (1990-1991) *Public Policy Colloquium* An advanced two-semester research seminar for senior honors candidates in the public policy and American institutions concentration. Participants jointly consider strategies appropriate to researching and writing a senior paper before proceeding to individual research on topics they choose. Each participant is required to present a summary of his or her work to the colloquium. R. E. CHEIT and STAFF.

198, 199. (1970, 1971) *Independent Reading and Research* Supervised reading or research. Specific program arranged in terms of the student's individual needs and interests.

**Primarily for Graduates**

200. (2000) *Institutions and Policy Making* (Political Science 220) Studies how political, social, and economic institutions structure policymaking. Covers a variety of policy areas such as education, health care, technology policy, welfare, and social policy. Written permission required. D. M. WEST.

201. (2010) *Economics and Public Policy* Examines issues in government spending and tax policy. Conceptual topics include the normative assignment of responsibility with federal systems and the equitable distribution of income. Specific policy applications are covered. Written permission required. STAFF.

202. (2020) *Public Budgeting and Management* Explores how organizations use budgets and management tools to achieve broader social, economic, and political objectives. It is designed to show how these techniques can be used to improve organizational performance. Written permission required. P. M. MARINO.
203. (2030) **Statistics**
Covers social and economic statistics and their role in public policy research. Among the topics explored are descriptive and inferential statistics, measurement, sampling, and multivariate analysis. Written permission required. **STAFF.**

204. (2040) **Policy Analysis**
Investigates policy analysis and program evaluation with emphasis on assessment of government programs. Written permission required. **E. A. MILLER.**

210. **Educational Leadership in Diverse Settings: Research, Policy, and Practice (Portuguese and Brazilian Studies 202)**
Interested students should register for the appropriate section of Portuguese and Brazilian Studies 202.

215. (2150) **Strategic Communication**
Teaches students communication skills for social change, and examines how individuals and organizations frame issues in order to effect change. Enrollment limited. Written permission required. **C. HEENAN.**

217. (2170) **Leadership and Organization**
Leadership is an integral part of-and integral to-the policy process. Teaches students how to lead policy organizations effectively and efficiently, giving them the knowledge and skills necessary to conceive, sell, and implement policy. A review of effective leadership gleaned from historical and contemporary examples serves as a reservoir of knowledge from which students will draw throughout their careers. **J. E. MARESCO.**

220. (2200) **The Political Economy of Punishment**
Examines a range of policy issues raised by the necessity to punish those who violate a society’s laws. Draws on studies in economics, sociology, criminology, and political science to explore such topics as the death penalty, the ‘war on drugs’, gun control, and racial disparities in criminal participation, victimization, and punishment. Enrollment limited. Written permission required. **G. C. LOURY.**

225. (2250) **U.S. National Security Policy**
Analyzes domestic and global issues related to American national security policy. Issues examined include the evolution of national security strategy since World War II, homeland security, economics of national security, the intelligence community and intelligence reform, counterintelligence, responses to terrorism, weapons of mass destruction, unilateralism vs. multilateralism, and economic espionage. **M. LUONG.**

230. **Welfare States (Sociology 230)**
Interested students should register for Sociology 230.

260. (2600) **Social Science Data Technologies**
Covers the applied use of data sources and computer software programs. Its goals are to teach students how to use common software packages and access policy-relevant data. Written permission required. **J. D. COMBS.**

270. **Perspectives on Comparative and American Political Behavior and Institutions (Political Science 209)**
Interested students should register for the appropriate section of Political Science 209.

280. (2800) **Internship**
Practical job experience in the public, private, or non-profit sector. **E. A. MILLER.**
290. (2900) Research Workshop
Group research projects centering on topics organized by the instructor. Students will be
organized into small teams that will undertake research projects such as policy analysis,
evaluation studies, organizational assessments, or data projects. Results of these projects
will be presented in the seminar. P. J. MC GUIGAN.

Center for the Study of Race and
Ethnicity in America

The center was established in 1988 to encourage and support the development at Brown and
nationwide of studies of race and ethnicity in America. The director of the center is Evelyn
Hu-DeHart, Professor of History and Ethnic Studies.

One purpose of the center is to develop resources for research and teaching in the area
of race, ethnicity, and class. A particular focus of the center is on interdisciplinary and
comparative study of non-European groups in America, with particular reference to African
Americans, Asian Americans, Latinos, and Native Americans. The center also encourages
interdisciplinary and comparative research on issues of race and ethnicity among ethnic
minorities in other countries.

A second purpose of the center is to inform the University community about research
on race and ethnicity. Toward that end, it sponsors a faculty seminar series, workshops,
public lectures featuring distinguished scholars, and conferences; produces publications
that are disseminated both locally and nationally; engages in joint activities with
community organizations, student groups, scholars outside Brown, and learned societies;
and participates as a member institution of the Southern New England Consortium on Race
and Ethnicity.

A third purpose of the center is to encourage research development and participation
in the research process. It does so by collaborating with other academic departments and
institutions on interdisciplinary research projects, and by providing small research grants to
faculty and graduate and undergraduate students.

For information about the center, to be put on its mailing list, or to receive its
newsletter, write to the Center for the Study of Race and Ethnicity in America, Box 1886
(or 150 Power Street), Brown University, Providence, RI 02912, or call 401-863-3080. The
center’s fax number is (401) 863-7589. Email: RACETH@Brown.edu. Web:
www.brown.edu/Departments/Race_Ethnicity/

Religious Studies

Professors Cladis (Chair), Dietrich (Emeritus), Frerichs (Emeritus), Harvey, Kraemer,
Olyan, Reeder, Roth, Stowers, Twiss (Emeritus); Associate Professors Saflow, Wulff;
Assistant Professor Bagger; Visiting Professor Delaney.

The department offers instruction in the academic study of religion and preparation for
college and university teaching. Descriptions of the graduate programs are available from
the academic office coordinator.

For additional information please visit the department’s website at:
http://www.brown.edu/Departments/Religious_Studies/
Undergraduate Program

For a complete description of the standard concentration program leading to the A.B. degree, please visit: http://www.brown.edu/Administration/Registrar/concentration.html.

Graduate Programs

The Department offers five specialized Ph.D. tracks: Ancient Judaism; Early Christianity; Religion and Critical Thought; Religion, Culture, and Comparison; and Religion in the Ancient Mediterranean.

Master of Arts

Students are admitted for terminal Master’s study only under exceptional and rare circumstances. Eight graduate level courses are required, among which is RS 200, “Theory of Religion.” Students must demonstrate competency in French or German, as well as in whatever other languages are relevant to research interests. A thesis is required.

Doctor of Philosophy

Each of the five Ph.D. programs has the same general course of study. All students will go through the phases of subject coursework; foreign language exams (or equivalent coursework); preliminary exam; preparation of a dissertation prospectus and its approval by the faculty; and the research, writing and defense of the dissertation. All Ph.D. students are also required to gain teaching experience in undergraduate courses as Teaching Assistants or Teaching Fellows.

Coursework: All students are required to complete the equivalent of three years (six semesters) of full-time study beyond the baccalaureate degree (i.e., twenty-four tuition units). Up to one full year of graduate work done in residence at other institutions and not used in fulfillment of the requirements for the Ph.D. elsewhere may, on the recommendation of the department faculty and with the approval of the registrar, be counted in fulfillment of this requirement.

Students will normally develop their course of study in consultation with the faculty in their area and as necessary with the Director of Graduate Study. All students are required to take RS 200, a seminar on “Theory of Religion.” We encourage students to work and develop professional relationships with faculty outside of the Department who focus in cognate areas. A student in Ancient Judaism, for example, might take courses in the archaeology of the Near East or literary theory. Students in Religion and Critical Thought often take courses in the Philosophy Department.

After completion of formal course requirements, Early Christianity requires that its students enroll in one designated seminar in their particular program each semester until the completion of the Preliminary Examinations.

Foreign Language Requirements: All students are required to demonstrate competency in two modern foreign languages, typically French and German. This requirement can be fulfilled through either appropriate coursework or examination. Depending on the student’s program and interests, other modern languages (e.g. Modern Hebrew for students in Ancient Judaism; Italian for some Early Christianity students) may also be required.

The programs in Ancient Judaism, Early Christianity, and Religion in the Ancient Mediterranean also require competency in ancient languages (Hebrew, Aramaic, Greek and
Latin for Ancient Judaism; generally Greek and Latin for Early Christianity). In the Religion in the Ancient Mediterranean program, students choose a major and a minor field at the end of their first year. Their language requirements are determined according to this choice. Students in the Religion and Critical Thought, and the Religion, Culture and Comparison programs determine additional language requirements in consultation with the faculty.

Students must complete all language requirements prior to taking their Preliminary Examinations.

**Preliminary Examinations:** Presently the different programs vary widely in the format and expectations of their exams. This is due, in part, to the differing professional expectations in each of these areas. Generally, however, each program has designed its exams to help its students acquire specialized expertise as well as disciplinary breadth. More specifically:

**Ancient Judaism:** The exam has two segments. The first, to be taken no later than the end of a student’s seventh semester of residence, is meant to provide a firm grounding in history, literature, and methodological issues from Ancient Israel to the end of Late Antiquity. This examination is based on a standard reading list provided in advance to the student. The second exam, to be taken no later than the end of the eighth semester of residence, is on a series of specialized topics. The reading lists for this exam are made by the student in close consultation with the core faculty.

**Early Christianity:** Qualifying examinations are normally taken at the end of the first or the beginning of the second year and measure a basic knowledge necessary for advanced work in the field. The two areas of examination are (1) Greek and Roman cults and philosophies from Alexander through Late Antiquity; and (2) Judaism from the Persian period through Late Antiquity. The Preliminary Examination is normally taken before the end of the third year. The precise scope and content of the examination will be determined by consultation between each individual student and faculty. The three areas of examination are:

1. Christianity in the early Empire (Augustus through Marcus Aurelius) with an emphasis on New Testament studies and the beginnings of Christianity
2. Christianity in Late Antiquity (Marcus Aurelius through Justinian); and
3. the area of dissertation.

**Religion and Critical Thought:** The Preliminary Examination should be concluded within a year of completing the course work. Normally, then, the Preliminary Examination would be concluded at the end of May of the student’s third or fourth year (depending on whether the student entered the program with a bachelors or masters degree). The four segments, all of which may be satisfied by papers of approximately 25-35 double-spaced pages (including notes) are defined as proficient treatment of:

1. a comparison of two historically significant figures or texts;
2. a conceptual issue pertaining to the philosophy and theory of religion, religious ethics, political theory, or some combination of these;
3. a substantive review essay of a noteworthy book published within the last ten years or so; and
4. a topic that is pertinent to the student’s dissertation.

Up to two of the exams may be satisfied by take-home examinations.

**Religion, Culture, and Comparison:** RCC students take two sets of examinations:

1. a four hour written examination of theoretical competence based upon a bibliography produced by the Department;
2. a written Preliminary Examination of two three-hour parts that will test knowledge of the major cultural area and critical issues related to the study of that area.

In addition, RCC students write a major paper in connection with RS 200 that formulates a series of critical questions and areas for theorization in the student’s major area, and that discusses relevant bibliography in the social sciences and religious studies.

Religion in the Ancient Mediterranean: The Preliminary Examination is taken in four parts:
1. Major field
2. Minor field
3. Ancillary area
4. Dissertation area

Generally, students who entered with an MA will spend their third year of study preparing for and taking the Preliminary Examination. Students who enter without an MA are expected to complete the Preliminary Examination during their fourth year of study. In either case, two parts of the Examination should be completed by January of the academic year in which the examination is taken, and the entire examination completed by the end of May.

Dissertation Prospectus: Students normally present a formal dissertation prospectus to the faculty shortly after successful completion of their exams, and defend the dissertation prospectus before the department faculty two to four weeks later.

Dissertation: Students are normally expected to devote one to two years to the dissertation, and to defend the dissertation before the department faculty four to six weeks after its submission.

Course Work for Graduate Programs

For regular seminar offerings, see RS 201, 206, 211, 231. Much of the graduate instruction provided by the department occurs in the form of individual or collective tutorials arranged between students and faculty. (Students enroll in RS 291.) Areas of research include the following:

Religion and Society in Late Antiquity; Early Christian Asceticism; Hagiography; Women in Early and Byzantine Christianity; Syriac Studies (S. Harvey)

Cynicism, Stoicism, Epicureanism and Early Christianity; The Form and Function of Early Christian Literature; Early Christian Ethics; The Social World of Early Christianity (S. Stowers)

Early Christian Narrative Traditions, Christian Women and Jewish Women in the Roman Period, Religion and Gender in the Greco-Roman Mediterranean, Christian and Jewish Apocrypha and Pseudepigrapha, Christianity and Judaism in Ancient Asia Minor, Jewish Inscriptions in the Graeco-Roman Period (R. Kraemer)

Confucian Texts; Taoist Texts; Chinese Buddhist Texts; Sinological Methods for Philosophical Texts (H. Roth)

Early Judaism; Rabbinic Texts; Marriage and Sexuality; Religious Piety in Antiquity (M. Satlow)

Hindu Texts, Vaishnava Devotion, Music, Dance, Drama and Aesthetic Theory; Women in the Hindu Tradition (D. Wulff)
Philosophy of Religion; Kant, Hume, and Pragmatism (M. Bagger)

Religious Origins of Liberal and Communitarian Thought; Religion and Modernity: Rousseau, Durkheim, Weber and Dewey (M. Cladis)

History, Literature, and Religion of Ancient Israel; History of Biblical Interpretation (S. Olyan)

Religion and Culture (C. L. Delaney)

Courses of Instruction

Primarily for Undergraduates

1. Judaism (Judaic Studies 1)
   Interested students should register for Judaic Studies 1.

2. (0110) Introduction to Christianity
   A historical survey of Christianity from its foundations to the present, tracing its development into three main branches: Orthodox, Catholic, and Protestant. Readings from a variety of Christian “classics” accompany the survey, pursuing the theme of how—in different times, places, and circumstances—Christians have understood their relations to the divine and to the world. S. A. Harvey.

3. (0140) Introduction to Indian Religions
   Presents three major religious traditions that have flourished in India—the Hindu, the Buddhist, and the Islamic—and looks more briefly at two others, the Jain and the Sikh. We consider each individually and then study their interaction, exploring such prominent instances of violence and non-violence—both in theory and in practice—as jihad, Gandhian nonviolent resistance, and Hindu Nationalism. D. M. Wulff.

5. (0150) Introduction to Islam
   A survey of the Islamic religious tradition from its beginnings to the present day in a historical and comparative framework. Topics include: Muhammad and the Qur’an, law, ritual, mysticism, theology, gender, and modern Islamic thought. Emphasis on issues of identity, community, and religious authority as defined in multifaceted interactions between Islamic ideals and changing historical realities.

6. (0100) Introduction to Buddhism (East Asian Studies 6)
   An introductory survey of Buddhist beliefs, teachings and practices. Readings will comprise a combination of primary and secondary sources and genres including sutras (“scriptures”), narratives, commentaries, and biographies.

9. (0430) Sacred Stories
   Ancient Christian narrative imagination and the formation of Western culture. Emphasis will be on the ancient stories that accompanied the spread and “triumph” of Christianity, but attention will also be given to how these themes and images have prevailed in western history. Biblical legends, heroes and heroines, saints and sinners, the demonized Religious Other. S. A. Harvey.

11. (0010) Approaches to Religion
   An introduction to the study of religion by examining selected examples of religious belief and practice from around the world and exploring some theoretical tools with which to think about them. M. C. Bagger.
21. (0060) Religion and Its Critics in the Modern West
A chronological survey covering some major religious and anti-religious thinkers in the Modern West. Authors include: Hume, Mendelssohn, Kant, Feuerbach, Marx, Kierkegaard, Nietzsche, Freud, and Tillich. M. C. BAGGER.

23. (0260) Religion Gone Wild: Spirituality and the Environment
(Environmental Studies 23)
A study of the dynamic relation between religion and nature. Religion, in this course, includes forms of spirituality within and outside the bounds of conventional religious traditions (for example, Buddhism and Christianity, on the one hand; ecofeminism and the literature of nature, on the other). Topics in this study of religion, philosophy, and ecology will include religious depictions of nature, humans, environmental justice and environmental degradation. Enrollment limited. Written permission required. M. CLADIS.

26. (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 transcendent 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. M. CLADIS.

60. Introduction to Islamic Archaeology
(Archaeology and the Ancient World 60, Anthropology 55, History of Art and Architecture 48)
Interested students should register for Archaeology and the Ancient World 60.

63. The Beginning of Judaism (Judaic Studies 53)
Interested students should register for Judaic Studies 53.

71. (0400) New Testament and the Beginnings of Christianity
How and why Christianity emerged in various forms in the ancient Mediterranean. Insights from religious studies, gender studies, literary studies, anthropology, and other fields. Careful critical readings of New Testament books, non-canonical gospels, early Christian letters, ancient apocalypses. Topics include: Jewish contexts; representations of Jesus; Paul and early communities; Christians and imperial Rome; gender constructions; canonization; eventual separation of Christianity and Judaism. Open to all students. R. S. KRAEMER.

72. (0410) Christianity in Late Antiquity
The communal struggles, personal rivalries, and theological conflicts that shaped Christianity in its formative centuries: heresy and orthodoxy, hierarchy and charisma, gender and class, persecution and martyrdom, paganism and classical tradition, creeds and councils, asceticism and the body, church and state, eastern and western Christianity. Focused in the 2nd through 6th centuries A.D. S. A. HARVEY.

81. (0130) Hindu Religious Life
After a brief look at our earliest evidence, we focus on the three most prominent Hindu goals during the last two millennia—enlightenment, righteous action, and loving, often passionate devotion—and the variety of practices undertaken to realize them. These include study, meditation, music, drama, image worship, asceticism, and nonviolence. Attention to issues of gender, caste, and untouchability. D. M. WULFF.

88. Issues in the History of Religions
The Bible as Literature (Judaic Studies 26, Comparative Literature 81, English 79)
Interested students should register for Judaic Studies 26.
(0210) **Celluloid Jesus**
An examination of the representations of Jesus in cinema from the second half of the twentieth century, with judicious comparative use and analysis of ancient narrative traditions about Jesus, particularly in the New Testament gospels. Films include: Samuel Ray’s *King of Kings*; Pasolini’s *Passion of (St) Matthew*; Monty Python’s *Life of Brian*; Denys Arcand’s *Jesus of Montreal*; Scorcese’s *Last Temptation of Christ*, *Jesus Christ Superstar* and *The Matrix*. R. S. KRAEMER.

*Concepts of the Self in Classical Indian Literature* (Classics 99)
Interested students should register for Classics 99.

(0120) **The Foundations of Chinese Religions: Mystics, Moralists and Diviners**
An introduction to the origins and early development of the indigenous religious thought of China from the oracle bone divination of the Shang Dynasty to the ethical philosophy of Confucianism and the cosmology and mysticism of Taoism. The course will seek to identify and elucidate the basic elements of the distinctive Chinese world view and demonstrate how they have shaped the nature of religious practice and experience and how they have been shaped by them. Works of interpretive scholarship will be used to supplement the primary texts in translation that will form the course. H. D. ROTH.

*God and Poetry* (Judaic Studies 98, English 79)
Interested students should register for Judaic Studies 98.

*Good and Evil* (Judaic Studies 98)
Interested students should register for Judaic Studies 98.

(0040) **Great Contemplative Traditions of Asia** (East Asian Studies 88)
Introduction to the critical study of mysticism emphasizing the analysis and interpretation of Asian mystical texts, theories of mystical experience, and relationships of mysticism to meditative practice and moral transformation. Mystical texts are drawn from both the Buddhist traditions of India, China, and Japan and the Taoist tradition of China. All are studied in historical context. Representative theorists span philosophical, psychological, and neuroscientific approaches. H. D. ROTH.

*The Hebrew Bible & History of Ancient Israel* (Judaic Studies 47)
Interested students should register for Judaic Studies 47.

(0090B) **Hindu and Christian Modes of Loving Devotion**
Explores two modes of devotion prominent in the medieval West and in medieval and modern India, both centering on the human incarnation of divinity, as Jesus Christ and as Krishna. The first considers the divine as child and plays on the paradox of the omnipotent God of the universe as a seemingly helpless infant. In the second, God is conceived as a lover and erotic passion serves as an image and avenue of religious realization. First-year students only. D. M. WULFF.

(0090C) **Investigating Religion and Culture**
This freshman seminar uses the disorientation and gradual orientation experienced by students entering the university as a way to think about that of anthropologists who enter another culture. We investigate the culturally specific ways humans orient themselves in space and time, by means of language, the body, kinship, etc., and by the meanings provided by the symbols and frameworks of religion, public myth and ritual. Enrollment limited. Written permission required. C. L. DELANEY.
(0600) Islam and Modernity
This course will explore the Islamic intellectual encounter with the modern world by looking at various attempts by Muslim thinkers to accommodate or reject non-Muslim ideas in areas of political philosophy, legal theory, and ethics. It will also examine the ideological composition of revivalist movements and current debates on the relationship between Islam and the West. Enrollment limited. Written permission required.

Islam and Politics in the Modern World
This course will examine major Islamic political ideas and institutions from a comparative and historical perspective, and will look at the role of Islam in the politics of the Muslim societies during the nineteenth and twentieth centuries. It will look at modern religious political activism in the Muslim world and will explore different theories of Islamic state, prospects of political pluralism and debates on the relation between Islam and democracy.

(0090D) Jewish and Christian Women in the Ancient Mediterranean
What do we know of Jewish and Christian women in the Greco–Roman Mediterranean and their place in the study of early Judaism, early Christianity, and women’s history and religions? An examination of literary, documentary, and archaeological sources from the later Hellenistic period through the late Roman period, with generous assistance from recent scholarship and attention to theory in women’s/gender studies/religious studies.
Enrollment limited. R. S. KRAEMER.

(0230) Jewish and Islamic Law (Judaic Studies 98)
A comparative examination of select themes in Jewish and Islamic law in their historical context. Topics and themes include: sources of the law and styles of legal discourse in Judaism and Islam; conceptions of authority; ritual practices; marriage, divorce, and sexuality; and politics and religious law. M. L. SATLOW.

Jewish Mysticism (Judaic Studies 99)
Interested students should register for Judaic Studies 99.

(0240) Judaism and Christianity in Conflict (Judaic Studies 98)
Explores the tense relationship between Judaism and Christianity from antiquity to the present, with an emphasis on theological issues and polemics. Readings include selections from the New Testament and early Christian writers on Jews and Judaism, Jewish writings on Jesus and Christianity, transcripts of medieval debates, philosophical broadsides, parodies, and contemporary theological documents (e.g., Vatican II). M. L. SATLOW.

Modern Jewish Philosophy (Judaic Studies 94)
Interested students should register for Judaic Studies 94.

(0620) Muhammad and the Qur’an
An introduction to the major themes of the Qur’an in relation to the life and teachings of Muhammad. The course examines the various interpretive strategies through which Muslims have sought, throughout their history, to discover the meaning of their foundational text; and it reviews some of the ways in which new interpretations of the Qur’an are being attempted in the contemporary Muslim world.

Mysticism and Community in the Hasidic Tale (Judaic Studies 98)
Interested students should register for Judaic Studies 98.
Origins of Jewish Philosophy (Judaic Studies 98)
Interested students should register for Judaic Studies 98.

Religion and Magic in Ancient Greece (Classics 52)
Interested students should register for Classics 52.

Secular Jewish Identities (Judaic Studies 98)
Interested students should register for Judaic Studies 98.

Talmud (Judaic Studies 41)
Interested students should register for Judaic Studies 41.

(0080) Women and Religion: A Cross-Cultural, Transhistorical Introduction
An introductory investigation of women’s practices and beliefs in a wide range of traditions, ancient and modern, Western and Eastern; examples vary from year to year. Focuses on both description (and/or reconstruction) and development of productive theoretical models. Special attention to the relationships between religious systems and constructions of gender (ideas about masculine and feminine). R. S. Kraemer.

94. Modern Jewish Philosophy (Judaic Studies 94, Religious Studies 168)
Interested students should register for Judaic Studies 94.

For Undergraduates and Graduates

100. (1000) Methods in Religious Studies
Intensive introduction to classical and contemporary theories of religion and the principal methods for the study of religion. Junior seminar for religious studies concentrators. M. C. Bagger.

117. (1170) Studies in Early Christianity
Enrollment limited. Written permission required.

(1330) Paul and His Interpreters
Paul’s writings have been central to the understandings of human nature and conscience, sin and salvation, history, ethics, and human transformation. This course treats the historical Paul and his most important interpreters, especially Origen, Augustine, Martin Luther, Soren Kierkegaard, Fredrich Nietzsche, Albert Schweitzer, Rudolf Bultmann, and the use of Paul among certain contemporary European philosophers (Badiou, Zizek, Agamben). Enrollment limited. Written permission required.

(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 viruosos (pillar saints, holy fools). Prerequisites: RS 9, 71, or 72. Enrollment limited. Written permission required. S. A. Harvey.

118. Selections from Greek Authors: Mysteries† (Greek 111)
Interested students should register for the appropriate section of Greek 111.

131. Religion, Culture, and Cosmology (Anthropology 131)
Interested students should register for Anthropology 131.
136. (1750) Reason Within the Bounds of Religion
Is religious belief reasonable? Does it need to be? Can it respond to the challenges of such socio-scientific traditions as those associated with Marxism or Durkheim? In order to be intellectually defensible and morally respectable, does religion require experts—professionals of various stripes—to adjudicate its truth claims? This course is on religious thought and its truth claims. Enrollment limited. Written permission required. M. CLADIS.

137. (1370) Issues in the Philosophy and Theory of Religion
Current issues in the philosophy and theory of religion. Attention to such issues as: concepts of deity and their coherence; arguments about divine existence; nature of religious faith; status of religious experience; the self and immortality; theories about the nature, function, and rationality of religious beliefs and practices, and theories about the phenomenology and veridicality of mystical experiences.

(0540) Buddhist Psychology
The course will examine traditional Buddhist insights into the nature activity of the human mind. It will then consider how these have been understood or misunderstood by Western psychologists and cognitive neuroscientists. Buddhist texts will be drawn from the Theravada and Mahayana traditions in South and East Asia and Western theorists and researchers will be taken from the following: Jung, Maslow, Fromm, Pickering, Epstein, Goleman, Austin, and Davidson. Seminar Format. Pre-requisite: In descending order of priority: RS 188.017, “Theory and Practice of Buddhist Meditation;” RS 88.023, “Great Contemplative Traditions of Asia;” prior university level coursework in Buddhism. H. D. ROTH.

Christian Ethical Theories
Classical and contemporary readings in Christian ethical theory. Topics include: virtue ethics, natural law, divine command ethics, philosophical challenges to religious ethics, and the place of religious community in a liberal state. M. C. BAGGER.

138. (1380) Topics in Contemporary Religion and Critical Thought
Current issues such as God and history; reason, revelation, and tradition; secularism; modernity and theology; the relation of religion and morality; love and justice; religion and politics; comparative religious thought.

Natural and Supernatural: Issues in the Study of Science and Religion (English 176, Science and Society 176)
Interested students should register for English 176.

Religion and Morality
Is there a common morality despite moral diversity? Is there a secular morality independent of religious traditions? Do religions have distinctive moral visions? Do cultures have unique moral vocabularies and incommensurable standards? Is moral reasoning relative to historical and cultural context? Is truth? Classic and contemporary readings from philosophy, theology, and literature. Prerequisite: previous work in ethics. Written permission required.

Religion and Society in the United States (American Civilization 161)
Interested students should register for American Civilization 161.

Skepticism and Religion
Written permission required. M. C. BAGGER.

141. Roman Religion (Classics 141)
Interested students should register for Classics 141.
188. (1880) **Topics in the History of Religion**

(1300) **Ancient Christianity and the Sensing Body**
Bodily experience and sensory engagement became increasingly important for Christians during their first six centuries. This seminar examines how and why the body and its senses gained worth for ancient Christians as instruments for gaining knowledge of God. Prerequisites: RS 71 or 72. Enrollment limited. Written permission required. S. A. HARVEY.

(0200) **Anthropological Approaches to the Study of Religion**
Contemporary and classic anthropology texts will acquaint students with a variety of anthropological approaches to the study of religion. Topics will include: cosmology–worldview, ritual, sacrifice, body, gender, secularization. Enrollment limited. Written permission required. C. L. DELANEY.

**Confucian Ethics** (East Asian Studies 125)
Interested students should register for East Asian Studies 125.

**Converts, Drop-Outs and Returnees** (American Civilization 161)
Interested students should register for American Civilization 161.

(1410) **Directed Readings in Chinese Religious Thought: Chuang Tzu**
(East Asian Studies 188)
Interested students should register for East Asian Studies 188.
Entails a careful reading of the entire text of the *Chuang Tzu* in translation. Secondary sources on the philosophy and textual criticism of the book—drawn from the writings of Graham, Liu Hsiao-kan, Ivanhoe, Mair, Roth, and others—are also read. Seminar format. Prerequisites: RS 88.018 or RS 88.023. Written permission required. H. D. ROTH.

**Directed Readings in Chinese Religious Thought: Lao Tzu and Huai-nan Tzu**
(East Asian Studies 188)
Interested students should register for East Asian Studies 188.
Entails a careful reading of the entire text of the *Chuang Tzu* in translation. Secondary sources on the philosophy and textual criticism of the book—drawn from the writings of Graham, Liu Hsiao-kan, Ivanhoe, Mair, Roth, and others—are also read. Seminar format. Prerequisites: RS 88.018 or RS 88.023. Written permission required.

(1620) **Disability in Antiquity** (Ancient Studies 112, Judaic Studies 198)
An investigation into the ways in which physical deformities and mutilations are represented in texts from ancient Israel, Mesopotamia, Greece, and other Mediterranean cultures. Primary focus: texts of the Hebrew Bible. S. OLYAN.

**Early Jewish Prayer** (Judaic Studies 198)
An examination of prayer from the Hebrew Bible to late Antiquity. Will look at actual liturgies, writings about prayer and ancient and modern theorizations of prayer. Knowledge of Hebrew and Greek helpful. M. L. SATLOW.

(1310) **Ecology and Theology in Ancient Christianity**
How did early Christians understand the relationship of humanity to the natural world, the animal kingdom, and the created order? What were the obligations and responsibilities of Christians regarding care for the world, and how did these manifest a relationship to God? Pre-requisite: RS 71 or RS 72. Enrollment limited. Written permission required. S. A. HARVEY.
Environmentalism as Cultural Criticism: Enviro-Religious Critiques in a Globalizing World (International Relations 180, Environmental Studies 170)
Interested students should register for International Relations 180.

(1600) Fundamentalism and Modernity
This class will explore the phenomenon of “fundamentalism” in the three Abrahamic religious traditions–Judaism, Christianity, and Islam–using academic texts, novels, and films. We will discuss similarities and differences and focus on some contentions such as creationism, abortion, the veiling and seclusion of women, sacred land, and relationships between types of fundamentalism and violence. Prerequisite: prior coursework in Religious Studies or Cultural Anthropology. C. L. DELANEY.

Gendered Jewish Lives (Judaic Studies 198)
Interested students should register for Judaic Studies 198.

Interfaith, Interethnic, Interracial America (History 180, Ethnic Studies 189)
Interested students should register for History 180.

Introduction to Chinese Thought (East Asian Studies 124)
Interested students should register for East Asian Studies 124.

(0290B) Islam and the Self in Modern Persian Literature (Comparative Literature 181)
This course will study the impact of Islam on modern Persian literary imagination and expressions. By drawing on a select group of major works in English translation it will discuss the influence of religious, cultural, social, and political themes in the development of genre, use of metaphor, ideology, and the self-image of authors. Enrollment limited. Written permission required.

(1500) Islam and Politics in the Modern World
An examination of contemporary Muslim discourses on the “Islamic state,” the sharia, and issues of religious and political authority. What do these discourses tell us about contested views of the Islamic tradition, the complexities of the Muslim public sphere, and the processes of religious change in contemporary Islam? Enrollment limited. Written permission required.

Islamic Landscapes (Archaeology and the Ancient World 120, Anthropology 166, History of Art and Architecture 120)
Interested students should register for Archaeology and the Ancient World 120.

Jewish Identities in the Twenty First Century (Judaic Studies 198)
Interested students should register for Judaic Studies 198.

Jews and Judaism in the Greco Roman Mediterranean (Judaic Studies 198, Ancient Studies 112)
Interested students should register for Judaic Studies 198.

Jews, Race and Ethnicity (Judaic Studies 198)
Interested students should register for Judaic Studies 198.

Life Cycle (Judaic Studies 198)
Interested students should register for Judaic Studies 198.

Maimonides Seminar (Judaic Studies 198)
Interested students should register for Judaic Studies 198.

(0910) Music, Drama, and Religion in India
Music, drama, and dance have played central roles in Indian religious life from ancient times. They have expressed and nourished a wide range of devotional emotions
toward Hindu deities and functioned as meditative modes of attaining an impersonal state. The seminar explores diverse forms of religious experience produced and enhanced by the aesthetic means of music, drama, and transcendent dance. Audiovisual materials provide a sense of these aesthetic-religious performance forms. D. M. WULFF.

(1320) *The Origins of Western Morality*
How Greek (or Greco-Roman) and Jewish moral and ethical thought and practices are appropriated and transformed by Christianity. Special attention to Hellenistic philosophy, the Greek version of the Hebrew Bible and Christian writers in the first three centuries CE. Addresses questions about the origins of tensions and conflicts in Western morality and why sexual ethics have been so prominent and so problematic. Enrollment limited. S. K. STOWERS.

*Problems in Israelite History* (Judaic Studies 198)
Interested students should register for Judaic Studies 198.

*Problems in Israelite Religion and Ancient Judaism* (Judaic Studies 198)
Interested students should register for Judaic Studies 198.

*Qumran and the Dead Sea Scrolls* (Archaeology and the Ancient World 145, Judaic Studies 145)
Interested students should register for Archaeology and the Ancient World 145.

(1210) *Religion and Gender in the Ancient Mediterranean* 
A consideration of the relationships between constructions of gender and religious systems in the Hellenistic and Roman periods, including but not limited to Christianity and Judaism. Prior work in some aspects of Mediterranean antiquity, religious studies and/or gender studies will be helpful. R. S. KRAEMER.

*Spinoza* (Judaic Studies 198)
Interested students should register for Judaic Studies 198. C. L. DELANEY.

*Synagogues, Churches, and Mosques* (Archaeology and the Ancient World 144, Judaic Studies 144)
Interested students should register for Archaeology and the Ancient World 144.

*Themes in the Jewish Political Tradition* (Judaic Studies 198)
Interested students should register for Judaic Studies 198.

(0500) *The Theory and Practice of Buddhist Meditation* (East Asian Studies 188)
Examines the theory and practice of Buddhist meditation in historical and modern contexts. Traces this practice from its origins in 6th-century B.C.E. India to its transmission to China, Korea, and Japan. Studies selected normative texts and explores how Buddhist meditation is practiced today in each of these regions, both as an individual practice and as part of a monastic regimen. Meditation lab related to weekly seminar. Prerequisites: RS 6 or RS 88.23. Written permission required. H. D. ROTH.

*Women in Jewish Culture: Image and Status* (Judaic Studies 198)
Interested students should register for Judaic Studies 198.

(1350) *2 Corinthians* 
A study of Paul’s most difficult letter in the context of Christian origins and Greco-Roman culture. S. K. STOWERS.

191. (1990) *Individual Study Project*
Directed reading and research arranged with individual faculty.
Required of seniors in the honors program. Open to others only by permission of the chair of the department.

Primarily for Graduates

Critical examination of major approaches to the study of religion, especially those of the anthropology and the history of religions, with attention to issues in current debate. S. K. Stowers.

201. (2010) *Seminar in Biblical Studies*
Recent topics have included: Exegesis at Qumran, I and II Kings.

203. *Seminar in Archaeology and Religion*
*Archaeology and Religion: Excavating the Sacred from Prehistory to Islam*
(Archaeology and the Ancient World 201)
Interested students should register for Archaeology and the Ancient World 201.

206. (2060) *Seminar in Ancient Judaism*

211. (2110) *Seminar in Contemporary Religious Thought*
Recent topics have included: Duty and Virtue, Historicism and Ethics; History, Tradition, and Morality; Kant’s Relation to Modern and Post Modern Theology; Post Structuralism in Liberation Thought; Pragmatism; Recent Conceptions of Natural Law; Religion and Social Theory; Religious Origins of Liberal and Communitarian Thought.

231. (2200C) *Seminar in Early Christianity*
Recent topics have included: Ancient Christian Narratives about Jesus; Apocryphal Acts; Asceticism; The Cappadocians; Christian and Jewish Women in the Roman Period; Christian and Jewish Apocrypha and Pseudepigrapha; Christianizing Antioch; The Cult of the Virgin Mary in Late Antiquity; Early Christian Apocalypticism; The Formation of Syriac Christianity; Moral and Religious Economies of Graeco-Roman Households; Paul and Hellenistic Philosophy; Religion and Gender in the Greco–Roman Mediterranean.

254. *Roman, Byzantine and Early Islamic Jerusalem*
(Archaeology and the Ancient World 254)
Interested students should register for Archaeology and the Ancient World 254.

255. *Qumran and the Dead Sea Scrolls*
(Archaeology and the Ancient World 255)
Interested students should register for Archaeology and the Ancient World 255.

256. *Sacred Readings: The Bible, Biblical Interpretation, and Victorian Literature* (English 256)
Interested students should register for the appropriate section of English 256.

289. (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. No course credit.

291. (2910) *Independent Research*
The staff is willing to offer independent reading courses in selected areas. See the Instructor for more information.
299. (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. No course credit.

Renaissance and Early Modern Studies

Professors Carreño (Hispanic Studies), Castiglione (Italian Studies), Cope (History), Egan (English), Feerick (English), Foley (English), Fruzzetti (Anthropology), Gould (English), Harris (History), Haynes (Comparative Literature), Jodry (Music), Jones (Africana Studies), Kahn (English), Krause (French Studies), Kriz (History of Art and Architecture), Lincoln (History of Art and Architecture), Martínez (Italian), Merrim (Comparative Literature and Hispanic Studies), Muller (History of Art and Architecture), Nummedal (History), Putnam (Classics), Rabb (English), Riva (Italian Studies), Saint-Amand (French), Seifert (French Studies), Tennenhouse (Comparative Literature), Wey-Gomez (Hispanic Studies), Zerner (History of Art and Architecture).

Undergraduate Program
For information regarding the Renaissance and Early Modern Studies concentration program leading to the A.B. degree, please visit:
http://www.brown.edu/Administration/Registrar/concentration.html or http://www.brown.edu/Departments/Renaissance_Early_Modern_Studies/.

Courses of Instruction
Interested students should consult courses given by Renaissance and Early Modern Studies faculty in their respective departments.

Slavic Languages

Professors Cook, Evdokimova (Chair), Gleason, Golub, Herlihy, Levitsky; Associate Professors Carey, Fidler, Golstein; Senior Lecturer deBenedette.

The Department of Slavic Languages serves as the center for campus study of the languages, literatures, and cultures of the Slavic world. Its undergraduate program develops an in-depth knowledge of their cultures and considers the unique role that literature and language have played in shaping the political and social development of the former East-Bloc nations. It is the particular strength of the department to enable students to view Slavic cultures from within through research and teaching based on solid knowledge of the relevant languages. The department helps students to discover the diversity of perspectives in those cultures and to examine and experience how they differ from the students’ own. Its approach is complemented by courses in other units (the Watson Institute for International Studies and the Departments of History, Political Science, Comparative Literature, and Theater, Speech and Dance, among others) that examine aspects of Eastern Europe as viewed from without, that is, in the context of Western scholarly, cultural, and foreign policy traditions.
The department’s principal objectives are:
1. to develop language expertise according to stated proficiency goals;
2. to facilitate study of the Slavic languages, literatures, and cultures, with a strong focus on Russia and the Czech Republic, using a variety of cross-disciplinary perspectives;
3. to provide, in courses taught in Slavic languages, a combination of language and discipline content, always in a balance appropriate to the level of instruction;
4. to internationalize students’ learning encounters by requiring that they experience the language and culture outside the classroom;
5. to foster consistent and close interaction with other university units and faculty members who, through their research on Eastern Europe, improve the range and the quality of courses available in our concentration in Slavic studies.

Undergraduate Program
For a complete description of the standard concentration programs please visit: http://www.brown.edu/Administration/Registrar/concentration.html.

Graduate Programs
The Department of Slavic Languages offers a comprehensive doctoral program in Slavic Studies specializing in Russian culture and literature and in modern Czech culture. The program has a strong interdisciplinary focus and students are encouraged to work with departmental faculty as well as with faculty in related fields, such as comparative literature, theater, history, art history, modern culture and media, and political science. The program trains flexible and innovative scholars able to address varying teaching and research needs in future job markets. Outstanding library holdings in West and South Slavic languages and cultures at Brown and courses through the Brown-Harvard exchange program offer yet additional excellent resources for research.

In addition, to receive training in related disciplines, the doctoral students amass experience in teaching languages and literatures. Mentoring in teaching occurs in various contexts: in language and literature courses, where they serve as teaching assistants, in the interdepartmental foreign language teaching methods course (and related practice), and in seminars at The Sheridan Center for Teaching and Learning. Students will receive extensive advice on research strategies, conference presentations, and publication of their work.

Requirements
1. 16 graduate-level courses, including
   A minimum of five 200-level graduate seminars
   Theory and Methods of Foreign Language Teaching (SL 290)
   Two to four courses in a related field (to be determined in consultation with the Director of Graduate Study)
2. Teaching (minimum three semesters). An effort will be made to provide teaching experience not only in a Slavic language, but also in Russian literature, culture, and history.
3. Reading knowledge of a second language closely related to the student’s specialization. A standard of professional competence should be maintained within the area of likely specialization. Most students intending to specialize in Slavic cultural studies should demonstrate an appropriate language competence in Russian and one more Slavic language, normally Czech, and most students specializing in one
Slavic culture need German or French for their research. This requirement may be satisfied through advanced coursework during the first year, or by placement evaluation. Fulfillment of the second language requirement with a language other than German or French must be approved by the graduate committee.

4. Qualifying Examination (details in the department office).

5. Dissertation and Defense (details in the department office). Students should submit the doctoral thesis prospectus to the thesis director and the Director of Graduate Study by October 1 of their fourth year.

6. Students whose primary Slavic language competence requires them to take language courses below the 100-level may do so in consultation with the Director of Graduate Study, but those courses will not count toward the course requirements for the Ph.D.

Funding and Time Table for Completion of the Ph.D. in Slavic Studies

Normally coursework and the preliminary examinations are completed by the end of the third year, submission of the doctoral thesis proposal during the fourth, and one or two years of work to complete the doctoral thesis. Our students will receive full support for five years.

For additional information please visit the department’s website at: http://www.brown.edu/Departments/Slavic_Languages/

Courses of Instruction

Czech

Primarily for Undergraduates

10, 20. (0100, 0200) Introductory Czech (Czech 125)
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. CZ 20 includes readings of annotated literary texts on the Web. M. U. FIDLER.

41. (0410) Topics in Czech Language and Culture
Examines aspects of Czech cultures as manifested in history, literature, journalistic writing, and film. An equally important aim is to develop students’ written and oral expression beyond everyday discourse. Prerequisite CZ 20 or placement test.

(0410A) Boys and Girls: Relationships under Socialist Bohemia
Using Milos Forman’s film “Loves of a Blonde” and supporting materials around it, we will discuss human relationships and how they can be interpreted culturally and politically. Equally important is the acquisition of language. Tasks for the course are adjusted to two different language levels (intermediate and advanced). M. U. FIDLER.

Czechs and the Big Brother: Czech Lands in the 1980s
The relationship between Czechs and the neighboring superpowers throughout history with special focus on the 1980s, as reflected in film, and literary and journalistic texts. Equal emphasis on the acquisition of language, including exposure to Colloquial Czech. Separate language tasks for two proficiency levels (2nd and 3rd year). Conducted in Czech. Prerequisite: CZ20 or placement test. M. U. FIDLER.
61. (0610) *Topics Course on War, Revolution and National Identity in Czech Culture*
Explores war, revolution, and the issue of national identity in Czech culture and history from various angles as manifested in literary and journalistic texts, art, music, and films. Use of authentic materials. Discussion in Czech. An ancillary aim is to develop advanced language skills. Prerequisite: CZ 41 or placement test.

*Czech Cultural Icons, Emblems, and National Identity*
The relationship between Czechs and the neighboring superpowers that exist from the period of the Czech National Revival in the 19th century. Discussion of frequently addressed national character of the Czech nation from the viewpoint of Czechs. Explores how these issues relate to the attitudes and viewpoints in the contemporary setting. Conducted in Czech. Prerequisite: CZ41 or placement test. M. U. Fidler. (0610A)

*Czech Lands under Occupation and Terror*
Examines German occupation of Bohemia, Moravia and Silesia seen from the perspective of an ordinary Czech citizen. Discussion topics include Czech-German relations, the Holocaust, and resistance movements. Use of films, journalistic and literary texts. Tasks for the course are adjusted to two different language levels. M. U. Fidler.

For Undergraduates and Graduates

100. (1000) *Dimensions of Czech Animation: Contexts, Interpretations, and Dialogs with the East*
Cultural-historical contexts that gave rise to the internationally acclaimed Czech animation by Trnka, Svankmajer and others. Fascination with Czech animation in Japan used as an example to illustrate the mechanism of cross-cultural reception of Czech animation. Readings of related Czech literature/theory of animation. Selected Japanese animation and literature discussed. Readings in English. Films are dubbed or subtitled in English. Written permission required. M. U. Fidler.

105. (1050) *Contemporary Czech Society and Literature in Translation*
Surveys representative Czech prose texts mainly from the late 20th to 21st century, in English translation. No knowledge of Czech is required. Readings include Hasek, Capek, Kundera, Hrabal, and Havel. Films also part of course. M. U. Fidler.

Russian

Primarily for Undergraduates

10-20. (0100-0200) *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 lab, video, and web materials. L. deBenedette.

11. (0110) *Intensive Russian*
Intensively-paced introduction to Russian culture and language; completes one year of study in one semester (RU 11 = RU 10–20). Comprehension and use of contemporary Russian; fundamentals of Russian grammar; vocabulary acquisition; focus on oral communication. Introduces aspects of everyday culture of Russia and the former U.S.S.R. Ten to fifteen hours weekly work outside the classroom. Double credit. L. deBenedette.
25. (0250) *Introductory Russian in St. Petersburg*
Intensive introductory language and culture taught in St. Petersburg, Russia, meeting 15 hours per week. Students develop communicative and cultural competence in Russian emphasizing 1) culture of everyday life in Russia and 2) life in St. Petersburg. For students without previous study of Russian. V. GOLSTEIN.

29. *Russian Literature in Translation I: Pushkin to Dostoevsky*
Survey of major works of Russian literature of the early and mid-19th century. Authors to be studied include Karamzin, Pushkin, Lermontov, Gogol, Turgenev, Leskov, and Dostoevsky. Lectures and discussion. No knowledge of Russian required. Discussion sections to be arranged. A. LEVITSKY.

30, 40. (0300, 0400) *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: RU 20 (for RU 30; RU 30 (for RU 40) or placement by exam. L. DEBENEDETTE.

31. (1300) *Russian Literature in Translation II: Tolstoy to Solzhenitsyn*
Survey of major works of Russian literature of the late 19th and 20th centuries. Traces the development of Russian literature from realism to symbolism and decadence, from revolutionary experiments to socialist realism and dissent. Authors to be studied include Tolstoy, Chekhov, Sologub, Blok, Mayakovsky, Babel, Olesha, Zamiatin, Bulgakov, and Solzhenitsyn. Lectures and discussion. No knowledge of Russian required. V. GOLSTEIN.

32. (0320) *Freshman Seminar*
*Freshman Seminar: Dostoevsky’s The Brothers Karamazov The Art of the Novel*  
(Comparative Literature 51)
Analysis of Dostoevsky’s last novel with special emphasis on his ideas about art, religion, and society. Focus on the relations of faith to morality, modes of transgression, retribution, and epiphany, the question of theodicy, the nature of authority, and Dostoevsky’s contributions to the genre of the novel. Dostoevsky’s formal innovation will be considered in broader historical and cultural context. In English. Enrollment limited. Written permission required. S. EVDOKIMOVA.

*Gogol: A Journey into the Fantastic*
A thorough examination of Gogol’s major works, with special emphasis on problems of genre and style. Enrollment limited. Written permission required. A. LEVITSKY.

35. (0350) *Intermediate Russian in St. Petersburg*
Intensive intermediate language and culture taught in St. Petersburg, Russia, meeting 15 hours per week. Development of communicative and cultural competence in Russian, emphasizing 1) descriptive and narrative texts and 2) culture and history of St. Petersburg. Prerequisite: RU 20 or equivalent. V. GOLSTEIN.

50, 60. (0500, 0600) *Advanced Russian*
Examines selected topics in Russian culture and history as depicted in readings, the media, and contemporary 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: RU 40 (for RU 50); RU 50 (for RU 60) or placement. L. DEBENEDETTE.
93. (0930) *Cultures and Literatures of the Russian and Soviet Empires*
Examines in depth various topics that constituted the cultural and literary landscape of the
Soviet Union, examining their antecedents in the Russian empire and their reemergence in
the post-Soviet world. Topics include: the Caucasus, from Tolstoy to modern Chechnya;
Orientalism; the Civil War and Pasternak; Akhmatova and the experience of the totalitarian
state. Enrollment limited. Written permission required. C. CAREY.

99. (0990) *The Black Experience in Russia and the Soviet Union*
A study of the African-American experience in Russia and the Soviet Union through the
prism of autobiographies, biographies, diaries, travel journals, and memoirs from the 18th
century to the present, of actors, American Communists, domestic servants, journalists,
musicians, poets, political activists, publishers, stage designers, students and writers,
including W.E.B. Du Bois, Harry Haywood, Langston Hughes, Paul Robeson and Richard
Wright. Enrollment limited. Written permission required. C. CAREY.

For Undergraduates and Graduates

100. (1000) *Russian Modernism and the Arts* (History of Art and Architecture 100)
Russian culture in a period of revolutionary upheaval: developments in literature, film,
design, visual and applied arts. Avant-garde experimentation and the creation of tradition:
primitivism, futurism, constructivism, and other movements in literature and the arts.
A. LEVITSKY.

102. (1020) *Russia Rediscovered*†
Explores Russian culture in the pre-Revolutionary era (ca. 1861–1905): encounters
between elite and popular culture in a period of immense social upheaval, in particular the
attempt to recover indigenously Russian art forms and rural traditions. Analyzes the
expressions of this nativist trend in literature, ethnography, religion, and visual and applied
arts, and attempts to sketch out the sociohistorical contexts of this “rediscovery” of native
Russian culture. THE STAFF.

105. (1050) *Russian Culture: From Peter The Great to Putin* (History 196)
An interdisciplinary exploration of Russian cultural history through its literature, art,
religion, social and political thought, and film. An examination of a wide range of cultural
expressions: religious and civic rituals, values and practices, social customs and popular
entertainment. In English. V. GOLSTEIN.

106. (1060) *St. Petersburg: A Window on Russia*
An interdisciplinary exploration of Russian cultural history through its literature, art,
aristocracy, religion, social and political thought, theater and ballet. Elements of Russian
culture will be presented through the prism of the city of St. Petersburg, its history, its urban
and cultural landscapes. Regular field trips to museums, theater, and city tours focused on
specific themes. S. EVDOKIMOVA.

109. (1090) *Esoteric Russia*
A survey of the main currents of mystical, esoteric, occult, and magical theories and
practices in Russia from the 11th century onward. Topics include pagan survivals,
Orthodox mysticism and magic, heresies and schisms, Freemasonry and Rosicrucianism,
Mesmerism and Spiritualism, H. P. Blavatsky, and G.I. Gurdjieff. No knowledge of Russian
is necessary. Prerequisite: any one of RU 29, 31, HI 140, 141, or UC 82, or written
permission of the instructor. THE STAFF.
110. (1100) *The Roots of Russian Culture*
Study of the patterns and roots of Russian culture over the last millennium and how Russia’s languages have determined its worldviews and cultural structures (the Whorf-Sapir thesis). Principal topics: Russian spirituality, diglossia, other kinds of literacy; speech and silence as means of knowing and unknowing; the shape of time and the rhythm of space; sacred vs. secular history; etc. Lectures and discussions in English. Prerequisite: Intermediate Russian. **THE STAFF.**

111. (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. Focuses on aspects of contemporary Russian society and life, emphasizing differences in Russian and American outlooks. Topics include gender roles, politics, the family, and work. Extensive classroom discussion and frequent writing assignments. Prerequisites: RU 60 or written permission. **V. GOLSTEIN.**

112. (1120) *Special Topics in Russian Studies II: Advanced Reading and Conversation*
A continuation of Russian 111. Examines aspects of Russian culture as manifested in Russian literature. Readings range from fairy tales to contemporary works. Extensive classroom discussion and frequent writing assignments. Prerequisite: RU 111, 170, or written permission. **THE STAFF.**

125. (1250) *Russian Cinema* (Modern Culture and Media 120)
This seminar will provide a chronological overview of Russian cinema from its beginning to the present. The films will be considered against the background of some historical, political, and theoretical readings. The students will also be encouraged to juxtapose Russian and non-Russian films in order to evaluate the place of Russian cinema within a global film culture. **V. GOLSTEIN.**

132. (1320) *Soviet Literature from 1917 to 1953*
Survey of Soviet literature in translation from the revolution to the death of Stalin. Includes Russian literature and the literary milieu of the NEP period, literature of the Thirties, and literature written during the Second World War and the postwar period. Texts by Akhmatova, Babel, Blok, Bulgakov, Ivanov, Lavrentyov, Mandelstam, Mayakovsky, Pasternak, Pilnyak, Shklovsky, and Zamiatin. S/NC. **C. CAREY.**

133. (1330) *Soviet and Post-Soviet Literature (1953 to Present)*
A survey of contemporary Soviet literature in translation from the death of Stalin through the Glastron era to the present. Includes prose writers and poets as well as women writers and authors from non-Russian republics. Texts by Aitmatov, Aksyonov, Bitov, Evtsushenko, Ibragimbekov, Iskander, Makine, Makanin, Nagibin, Petrushesvskaya, Rasputin, Shukshin, Sokolov, Soloukhin, Solzhenitsyn, Tolstaya, Trifonov, Ulitskaya. S/NC. **C. CAREY.**

134. (1340) *The Russian Novel*
Nabokov’s *Lolita* and *Pnin*, Bulgakov’s *Master and Margarita*, Bely’s *Petersburg*, and Sologub’s *Petty Demon* are read in depth as 20th-century milestones in the development of Russian prose—particularly as continuators of Gogol and Dostoevsky. No knowledge of Russian required. **V. GOLSTEIN.**

145. (1450) *Love, Adultery, and Sexuality* (Comparative Literature 181)
Literary representations of love, marriage, adultery, and sexuality. Examines the formation of the notion of passionate romantic love, the myths of femininity, and various concepts of love and family. Emphasizes the way in which the notions of love and sexuality are linked to national identity. Readings include several Russian popular and revolutionary feminist
writers as well as such classics as Rousseau, Racine, Pushkin, Flaubert, Tolstoy, Chekhov, and Kate Chopin. S. EVDOKIMOVA.

150. (1500) Approaches to Russian Literature
Reading in Russian of selected poetry and prose by important authors, among them Lomonosov, Karamzin, Derzhavin, Pushkin, Lermontov, Tiutchev, Gogol, Fet, Dostoevsky, Chekhov, Briusov, Akhmatova, Sologub, Remizov, Blok, Bely, Zamiatin, Pilnyak, and Mandelshtam. Lectures in Russian on literary problems, literary terms, and important aspects of literary history. Prerequisites: RU 60 plus RU 29 or 31 or written permission. A. LEVITSKY.

160. (1600) Literature and History: Russian Historical Imagination in the European Context†
Relationships between fact and fiction between historiography and historical fiction, between ideology and various ways of reconstructing the past. Readings will include historical fiction of Shakespeare, Schiller, Walter Scott, Pushkin, Tolstoy, War and Peace, and Pasternak, as well as theoretical texts from Aristotle to Nietzsche, White, and LaCapra. S. EVDOKIMOVA.

175. (1750) Russian and East European Folklore†
Introduction to the folklore of Russia and the Slavic countries of Eastern Europe, with occasional reference to the folklore of other regions. Among the types of folklore to be discussed: magical incantations, proverbs and riddles, ritual and lyric songs, folktales, epic poetry, and laments. Special attention to the relation of folklore to ritual and to mythology. Lectures and discussions geared to English translations. THE STAFF.

180. (1800) Pushkin
For generations of Russian readers and writers, Pushkin has been a cult figure, a true “national poet.” This course focuses on Pushkin as the progenitor of Russian national mythology and examines the seminal nature of his writing. Analysis of the dazzling array of genres which became his greatest achievement: lyric poetry, narrative poetry, novel in verse, prose, drama, history, and other nonfictional narratives. S. EVDOKIMOVA.

181. (1810) Tolstoy
Close readings of Tolstoy’s major novels (War and Peace and Anna Karenina, in particular) and shorter narratives with special emphasis on his iconoclastic ideas about art, religion, and society. Considers Tolstoy’s formal innovation in a broader historical and cultural context. Lectures and discussion. No knowledge of Russian required. S. EVDOKIMOVA.

182. (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. V. GOLSTEIN.

183. (1870) Gogol
A thorough examination of Gogol’s major works, with special emphasis on problems of genre and style. Lectures and discussions will be geared to English translations, but Russian concentrators and Slavic graduate students will be expected to do some reading in the original and to show evidence of it in their papers. A. LEVITSKY.

186. (1860) Chekhov
Commemorating the hundredth anniversary of the death of the great Russian playwright and short-story writer, this course will examine Chekhov’s innovations in the genre of the short story and in modern theater, as well as his ongoing influences in world literature. Themes include the nature of the Chekhovian comic, subversion of the dominant literary
and cultural paradigms and myths, representations of gender and sexuality. In English. 
S. EVDOKIMOVA.

198. (1960) Independent Study
Reading programs will be arranged on individual authors or special topics.

Primarily for Graduates

The most important literary currents from the Baroque to early romanticism. Study of style
and genre and the development of the literary language. Most lectures are in Russian. A. 
LEVITSKY.

241. (2410) Movements and Genres in Russian Literary Culture
Seminar. Critical reading of selected texts from the Kievan period through the first the first
half of the 19th century. The analysis will be based on a study of the infrastructure of each
work and the external influences of the period. Course will be mainly in Russian, with
focus on Russian critical terminology and approaches. Written permission required for
undergraduates. A. LEVITSKY.

261. (2610) Seminar in Russian Literature
(2610C) Russian Romanticism
Examination of the works of Russian romantic writers in the context of romanticist
literary culture. Readings include romantic manifestoes and literary criticism, as well
as poetry, prose, and drama of Russian and European authors. Topics include
romanticism and the Enlightenment, romanticist aesthetics and national identity, the
status of the poet, dandyism, the fantastic, and romantic historicism. Written
permission required for undergraduates. S. EVDOKIMOVA.

(2610A) Chekhov
S. EVDOKIMOVA.

262. (2620) Seminar in Russian Literature
Eugene Onegin
S. EVDOKIMOVA.

271. (2710) Seminar in Russian Literature
(2710A) Pasternak
THE STAFF.

(2710B) Poetic Structure
The technical study of verse; metrics and rhyme; linguistic analysis of poetic
language; semiotic aspects of verse semantics, including genre and historical
development. Primary focus on Russian verse, but some attention will also be given
to other Slavic materials, as well as to general theoretical issues of poetic structure.
THE STAFF.

272. (2720) Seminar in Russian Literature
(2720C) Death and Immortality in Poetry
In Russian. A. LEVITSKY.

(2720D) Derzhavin and his Epoch
In Russian. A. LEVITSKY.
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289. (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. No course credit.

291, 292. (2980) Advanced Reading and Research
299. (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. No course credit.

Slavic
For Undergraduates and Graduates

120. (1200) Slavic Fantasy and Science Fiction
Slavic literatures, with emphasis on fairy tales, utopias, and dream sequences to science fiction, which depict altered states of reality. Readings in English, supplemented with films in March and April. Seminar with discussion. Slavic concentrators and graduate students expected to cover much of the readings in the original. Familiarity with Slavic literary histories is not required. A. LEVITSKY.

177. (1770) Prague and St. Petersburg: A Tale of Two Cities
An exploration of the mythopoetic universe of Prague and Petersburg through literature and film. Both - one, ancient, the other “modern” - served at one point of the historical continuum as capitols of multinational empires (Holy Roman and Russian), yet also as loci of national identity, both factors thus contributing to their respective enigmatic states. The course will attempt to identify these enigmas and discuss their possible futures in the global polity and culture. Enrollment limited. Written permission required. A. LEVITSKY.

189. (1890) Slavic Contributions to Literary Theory†
Focuses on contributions made to modern literary theory by the Russian formalists and Czech structuralists. Prerequisite: previous course work in literary theory or permission from instructor. THE STAFF.

191. (1981) Independent Research in the Slavic Language(s)
Independent research on various topics in Slavic cultures. Reading, discussion, research must be done in the chosen Slavic language (Czech/Russian). Prerequisites: minimum RU 60/CZ 60 or placement evaluation by Russian or Czech language coordinator; department approval of research topic. Close work with faculty on project is expected. Prerequisite: six semesters of a Slavic language or the permission of the language coordinator. May be repeated once for credit. Enrollment limited. Written permission required.

197. (1970) Topics in the Cultural History of the Slavic People
(1970D) Václav Havel: Dissident, Playwright, and Politician
Critique of a modern society.

198. (1950) Independent Study
Reading programs arranged on special topics in Slavic Studies.

199. (1990) Senior Thesis
For requirements and schedule, contact the department. May be repeated once for credit. Written permission required.
Primarily for Graduates

221. (2210) Old Church Slavonic
Introduction to Church Slavonic philology. Structural analysis of Old Church Slavonic. Readings in Old Church Slavonic texts. THE STAFF.

289. (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. No course credit.

291, 292. (2980) Advanced Reading and Research

299. (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. No course credit.

Sociology


The Sociology Program offers many ways of gaining a better understanding of the modern social world. It also offers essential background for many careers and professions. In recent years students have developed special programs in the sociology of administration, arts and literature, communications, the community, crime and deviance, ecology and environment, the family and marriage, health and medicine, knowledge and ideology, law and its enforcement, modernization, organizations, political behavior, population, racial and ethnic relations, social movements, social psychology, gender roles and urbanization. The department also offers introductory and advanced courses in research methods, demographic techniques, survey methodologies, social statistics and computer approaches in social research.

Undergraduate Program
For a complete description of the standard concentration program leading to the A.B. degree, please see the department’s website at: http://www.brown.edu/Departments/Sociology/ or visit: http://www.brown.edu/Administration/Registrar/concentration.html.

Graduate Programs
The Graduate Program in Sociology is primarily a Ph.D. program. The objective is the education and the development of professional sociologists for careers in colleges and universities, research institutes, government, business, and nonprofit organizations. Emphasis is placed on the mastery of sociological fundamentals—concepts, theories and research methods—and thorough knowledge of substantive fields.
Areas of specialization within sociology cover a wide range of interests. The faculty at Brown has expertise in several key areas of the discipline. The social demography group examines families and children, migration, urbanization, and international population issues. The health group research extends from individual health experiences to organizations and systems of care. The macrosociology group takes up issues of economic development, states and social institutions, and comparative organizations. Faculty interests also include methodology, social theory, and social inequality (race, class, gender). These interests capitalize on our historic accomplishments, current faculty strengths, and strong linkages to centers and programs throughout the University (especially the Population Studies Training Center, Watson Institute for International Studies, Center for Gerontology and Health Care Research, A. Alfred Taubman Center for Public Policy and American Institutions, the Initiative in Spatial Structures in the Social Sciences (S4), and the programs in American civilization, ethnic studies, and Afro-American studies). Research and teaching collaboration between sociology faculty members and faculty in other departments, programs, and institutes within Brown University enrich the curricular offerings in sociology. Research and training in computer applications is offered in cooperation with the Social Science Research Laboratory (SSRL) located in the sociology department (Maxcy Hall).

Master of Arts Degree Requirements

The department does not have a separate A.M. program and does not encourage applications from students who only wish to pursue the A.M. degree. Students can earn the A.M. on the way to the Ph.D. or can receive the A.M. if they chose not to complete the Ph.D. program. The A.M. requires a balanced program of eight (8) courses in sociological theory, methods, and substantive areas taken for graduate credit. Four of these courses must be SO 243, 244 and two additional 200-level or 187-level courses. A Masters thesis is required, equivalent in quality and length of a published paper in a major sociology journal.

Doctor of Philosophy Degree Requirements

Three full years of graduate study are required for the Ph.D. degree. Up to one full year of credit may be transferred from another institution upon recommendation by the department. All students are expected to gain proficiency in theory, methods, statistics, and research that characterize sociology. The program in the fundamentals of the discipline requires students to take a yearlong sequence in sociological analysis (SO 243-244); foundations of sociological theory (SO 205 and its prerequisite SO 101, if necessary); and statistics (SO 201 and its prerequisite SO 110, if necessary). Students who have previously taken advanced courses in these areas may petition for exemption from any of these requirements. A diagnostic examination in sociological theory and methods is taken at the end of the second semester. Teaching experience is required of all Ph.D. students if not waived by prior experience. This requirement can be satisfied either through appointment as a teaching assistant or through participation in Teaching Practicum for a year (SO 250, SO 251).

Guided experience in research is considered essential. Students are expected during their second or third year to work as a research assistant or as a research collaborator with a faculty member engaged in an on-going research project. Students may participate in this by registering for SO 291 and SO 292.

All students must pass a preliminary examination in three areas of specialization selected with the approval of the department. The exam is usually taken at the end of the
third year of full-time study. The Graduate Committee will certify that the three areas selected in combination constitute a comprehensive and balanced set of specializations within the department. Shortly after the preliminary examination, students will be expected to present orally a dissertation proposal to the entire department. The dissertation is written under the supervision of a three-member dissertation committee. Following acceptance of the dissertation by the committee, a final oral examination is conducted covering the dissertation and related fields.

A program brochure with more details is available on request. GRE General scores and TOEFL scores are required for admission.

Courses of Instruction

Primarily for Undergraduates

1. (0010) Perspectives on Society
   An introduction to the discipline of sociology from a macro perspective. Students explore how different sociological paradigms lead to contrasting understandings of capitalism, the state, class, race, and gender. In addition, students learn new ways to think about social problems in the United States, in the developing world, and in world history.

2. (0020) Perspectives on Social Interaction: An Introduction to Social Psychology
   An introduction to the discipline of sociology examining the individual in social situations. 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 situational factors that bear upon the issue are investigated. The objective is to deepen understanding of the behavior of people in a social context.

13. (0130) American Heritage: Democracy, Inequality, and Public Policy
   America professes equality but exhibits many forms of inequality in schools, race relations, and income. An examination of contrasting elements of American society and a review of the role social science plays in public debate. To illuminate the debates, key topics, such as welfare, immigration, affirmative action, and environmental equity are considered.

15. (0150) Economic Development and Social Change
   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.

17. (0170) The Family
   The state of the contemporary family generates debate within and beyond sociology. That debate is considered by examining different definitions of family, changing gender roles within the family, and the family in cross-cultural context. Special issues include new family forms, such as gay and lesbian families and biological and step-parthood, as well as changing patterns of work and housework.

20. (0200) Population and Society
   Introduces the causes and consequences of major population trends in both industrialized and developing nations. Also examines U.S. family size and structure, patterns of marriage and divorce, and the demographics of an aging society. Also considers problems of high fertility, poverty and child health, and gender roles in developing countries.
21. (0210) **The City: An Introduction to Urban America** (Urban Studies 21)
What is special about urban life? How and why do cities differ? How has the way we think about the city changed over time? Can we solve urban problems? An interdisciplinary approach to cities in the U.S. and abroad: their history, physical design, spatial form, economy, government, subcultures, and social life.

30. (0300) **First Year Seminars**
These seminars, limited to freshmen only, are intended to introduce students to sociology (no background in sociology is required). Seminars provide students an opportunity to read, discuss, and produce sociological work in an environment that allows for significant interaction with the teaching faculty. These courses carry full credit in the sociology concentration program. Enrollment limited.

50. **Introduction to Ethnic Studies** (Ethnic Studies 50, American Civilization 75)
Interested students should register for Ethnic Studies 50.

51. **Problems in International Environmental Policy**
(Environmental Studies 51)
Interested students should register for Environmental Studies 51.

For Undergraduates and Graduates

101. (1010) **Sociological Theory**
Explores the work of several sociological founders and the contemporary theoretical traditions established by these founders, including: Adam Smith and utilitarian theory, Karl Marx and conflict theory, Max Weber and cultural theory, and Emile Durkheim and functional theory. Students learn how to read complex theoretical writings and apply them to their own concerns.

102. (1020) **Sociological Inquiry**
A hands-on introduction to the various techniques through which sociologists study society. Both qualitative and quantitative methods are examined. Students learn how to formulate research questions, gather data and evidence, and make reliable inferences. An excellent course for students who seek to develop analytical and methodological skills for success during and after Brown. Enrollment limited.

103. (1030) **Organizational Theories of the Public and Private Sectors**
(Public Policy and American Institutions 103)
A general introduction to the study of organizations and their significance in society, and the differences and similarities between public and private sector organizations. Readings include both classic theories of organizations as well as contemporary studies of organizational life cycles, interorganizational and multinational structures, professional and managerial work, and trends toward downsizing, outsourcing, and virtual organizations.

104. **Sociology of Education** (Education 104)
Interested students should register for Education 104.

105. (1050) **Methods of Research in Organizations**
(Public Policy and American Institutions 104)
An introduction to the various methods used by social scientists to study organizations and to the skills needed by managers and administrators to soundly evaluate problems and assess performance within organizations. Explores both qualitative and quantitative
methods. Students gain experience in developing research questions and linking those questions to appropriate research designs.

106. (1060)  **Leadership in Organizations** (Public Policy and American Institutions 106)
The goal is mastery of the theoretical and practical aspects of leadership. In addition to seminars, readings and papers, students form teams. Each tackles a case where they interview the actors in the case, formulate advice on the leadership approach, appropriate, create a website and organize a class discussion. Enrollment limited.

107. (1070)  **Money and Society: An Introduction to Economic Sociology**
Money makes the world go round. Money talks. Show me the money. This course addresses the ways money pervades social life. We examine money through multiple disciplines, from politics, history and finance, to gender, religion, and art. Relevant to concentrators in any of those fields, while also offering a critical perspective particular to sociology.

109. (1090)  **Theories of Organizational Dynamics and Decision Making**
Students in this micro-level theory course delve into the internal workings of organizations and study how individuals and groups create, affect, and are affected by organizations. Topics include decision-making, learning, work motivation and satisfaction, negotiation and bargaining, communication, cooperation and altruism, leadership, governance and ethics, organizational culture, group processes, stereotyping and injustice, and power and influence.

110. (1100)  **Introductory Statistics for Social Research**  
(Public Policy and American Institutions 110, Urban Studies 110)
Introduction to descriptive and inferential statistics: measures of central tendencies and variability, probability, binomial and normal distributions, tests of significance, chi square, correlation, and regression. Also includes the use of computers in data analysis. Knowledge of elementary algebra is assumed.

112. (1120)  **Sample Surveys in Social Research**
This course covers the theory and practice of survey research. Topics include questionnaire design and formatting; sample design and selection; interviewing techniques; data base design and data entry; and elementary data analysis and report production. Students individually design and conduct a survey on a topic of their choice, and collectively conduct and analyze a sample survey of the Brown student population.

117. (1170)  **Corporations and Global Cities** (Urban Studies 117)
Explores the decision-making processes of multinational firms in finance, wholesaling, commodity brokerage, manufacturing, and advanced corporate services (law, accounting, management consulting) and the growth and interactions among global cities such as New York, London, Tokyo, Cairo, and Hong Kong. Also considers the impact of multinationals and these cities on world regional change. Prerequisite: previous course work in a social science recommended.

125. (1250)  **Perceptions of Mental Illness**
Perceptions of mental illness form key parts of childhood socialization and adult belief systems. The mad artist, the frightening asylum, the mentally ill relative in the family closet—these are among the many perceptions of mental illness. This course draws on material from many fields—including sociological literature, fiction, biography, music, and art slides—but is organized around the need to understand mental illness in a broad social context.
126. (1260) *Market Research in Public and Private Sectors*
Introduction to data and research methods for private and public sector organizations. Data used in market research include trends in the population of consumers, economic trends, trends within sectors and industries, analyses of product sales and services, and specific studies of products, promotional efforts, and consumer reactions. Emphasizes the use of demographic, GIS, and other available data.

127. (1270) *Race, Class, and Ethnicity in the Modern World* (Ethnic Studies 127, Urban Studies 127)
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.

131. (1310) *Social Change in Latin America*
Analyzes the development of modern Latin American societies, focusing on three interrelated processes: the formation of states, the formation of nations, and the formation of socioeconomic systems. The approach is macrosociological, looking at broad processes of structural and institutional change, and historical-comparative, analyzing and comparing how the three processes above developed historically in different Latin American countries.

133. (1330) *Remaking the City* (Urban Studies 133)
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.

140. (1400) *Political Sociology*† (Urban Studies 140)
Analyzes “American Exceptionalism” through constitutional and cultural controversies. Considers relations between the state and such institutions as the market, the family, associations and churches. Examines the effects of class, race, ethnicity, and gender on American politics.

141. (1410) *Aging and the Quality of Life* (BioMed-Community Health 141)
Provides a broad-based knowledge of the aging process and its impact on the quality of life of elders. Explores physical, psychological, social, cultural factors. Assesses different approaches to meeting needs of elders and providing high quality care and examines consequences of an aging population for social institutions. Prerequisites: SO 1 or 2 and BC 7 or 31, or permission of the instructor.

144. (1440) *Intimate Violence*†
Explores sociological perspectives of violence in intimate relationships. Begins with theories of violence, including social learning theory, the frustration-aggression hypothesis, and violence as catharsis. Examines the contributions of gender, race status, media violence, and pornography to the issue. Investigates specific forms of intimate violence: sexual aggression (including “acquaintance rape”), partner abuse, elderly abuse, and child abuse.

147. (1470) *Sociology of Children and Adolescents* (Education 147)
We persistently sentimentalize children (until adolescence) in our culture, feeling them to be governed jointly by the unfolding of natural developmental processes and the influence of adults. This perspective is challenged by examining children as (sometimes reluctant)
participants in social institutions, as enactors and re-negotiators of prescriptions based on age, and as creators of peer society.

154. (1540) *Human Needs and Social Services* (BioMed-Community Health 154)
The development of human services provided by societies for their members. A broad range of social welfare institutions are studied, including income maintenance, family policy, housing, and health. The organization of institutions and professions receives particular attention. Issues of class, race, and gender are covered. Alternative models of human services are discussed.

155. (1550) *Sociology of Medicine* (BioMed-Community Health 155)
The sociopolitical context within which health, illness, and medical care are defined. Sociological materials are used to examine current developments in the health care field. Emphasis on identifying social and political forces that impinge upon the delivery systems and tracing their impact on the roles of practitioners and the health of their clients.

160. (1600) *Comparative Development*
An exploration of the economic, political, and social changes that constitute development. Both the historical experience of Europe and the contemporary Third World are considered. Major processes examined include state and nation-building, agricultural modernization, colonialism, industrialization, revolution and socialism, authoritarianism and democracy, and socioeconomic distribution. Emphasis on the countries of Africa, Asia, and Latin America.

162. (1620) *Globalization and Social Conflict*
Examines the effect globalization is having on the economies and societies of the developed and developing world. Focuses in particular on how new forms of global production and exchange are transforming the traditional role of the nation-state, creating new patterns of wealth distribution, and generating new sources of social conflict and political contestation.

164. (1640) *Social Exclusion* (Urban Studies 164)
What does it mean to “belong”? Why are some groups rejected and others accepted? This course examines the mechanisms of social integration and segregation, theories of diversity and hierarchy, and policies to reduce exclusion and inequality.

187. (1870) *Seminars*
Open to juniors, seniors, and graduate students with instructor’s consent. Note that some 200-level seminars are open to qualified undergraduates and may count for concentration credit. Enrollment limited. Written permission required.

190, 191. (1970) *Individual Research Project*
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.

195. (1950) *Senior Seminar*
Advanced research seminar for sociology concentrators in the second semester of work on an honors thesis. Participants examine methods for analyzing, writing, and presenting thesis material and apply peer review techniques in assessing each other’s work. Culminates in presentation of thesis to the department. Students doing independent study research may also participate with the instructor’s permission. Required for “honors” in sociology.

*Senior Seminar in Public and Private Sector Organizations*

(1950A) *Senior Seminar in Sociology*
A two semester research seminar for seniors writing an Honors Thesis. 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.

Primarily for Graduates

200. (2000) Theory and Research in Development
Theory and Research in Development I (Development Studies 200, Political Science 223)
Interested students should register for Development Studies 200.
Theory and Research in Development II (Development Studies 201, Political Science 224)
Interested students should register for Development Studies 201.

201. (2010) Multivariate Analysis
Oriented to pragmatic problems of manipulating, exploring, summarizing, and displaying data with three or more variables. Includes the general linear model, multiple linear regression, and multiple logistic regression models for categorical data. Emphasizes model selection and interpretation, and problems associated with the analysis of sociological data such as measurement error, nonlinear relationships, and missing data. Prerequisite: SO 110. Written permission required for undergraduates.

205. (2050) Recent Sociological Theory
This course focuses on core themes in sociological theory and on developing theoretical skills by closely and intensely engaging a small number of texts by paradigmatic theorists, including Gramsci, Habermas, Foucault and Bourdieu. We then examine how a range of other recent theorists have made use of and/or critiqued these four thinkers. Written permission required for undergraduates.

209. (2090) Culture and Social Structure
An analysis of the interrelations of religious ideas, value patterns, and various forms of knowledge on the one hand, and of the societal structures and changes in organizations and roles on the other hand. Offered in alternate years. Written permission required for undergraduates.

213. (2130) Health, Illness and Medicine in Social Context
The influence of social and economic factors on the development of concepts of health and illness, on the cause and distribution of disease, and on responses to disease. Lay-professional disputes over disease identification and intervention. Implications of medicalization (the expanding social jurisdiction of medicine). The importance of the health care system in American society. Selected issues in recent health policy. Written permission required for undergraduates.

215. (2150) Socioeconomic Analysis of Development
Compares economic and sociological perspectives on the problems of development. Topics include problems of conceptualization and measurement, entrepreneurship, capital accumulation, labor force utilization, income distribution, the role of the state, and the impact of international economic relations on developing countries. Prerequisite: a basic undergraduate micro-macro economics course or permission. Written permission required for undergraduates.
220. (2200) **Social Capital and Social Networks**
Explores the consequences of social capital and social networks for economic development. Examines different types and combinations of social relations, network structures of these relations, institutional environments that impact them, and dynamic forms these social relations take. Multilevel development cases include urban ethnic entrepreneurship, rural Third World communities, business networks (financiers, firms), intranational regions, and state-society relations. Written permission required for undergraduates.

221. (2210) **Qualitative Methods and Field Research**
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. Written permission required for undergraduates.

222. (2220) **Advanced Quantitative Methods of Sociology Analysis**
Analysis of limited variables (variables at a categorical or ordinal level of measurement). Topics include measures of association, contingency table analysis, binomial and multinomial logistic regression, ordered logistic regression, goodness-of-fit tests, and parameter interpretation. Prerequisite: SO 201.

223. (2230) **Techniques of Demographic Analysis**
Procedures and techniques for the collection, evaluation, and analysis of demographic data; census and vital registration systems, surveillance systems, and population surveys are considered. Investigates both direct and indirect methods of estimation. Introduces measures of population and composition and of fertility, morality, and migration; construction of life tables, population estimates, and projections. Written permission required for undergraduates.

225. **Living with Disability† (BioMed-Community Health 225)**
Interested students should register for BioMed-Community Health 225.

226. (2260) **Graduate Seminars**
Written permission required for undergraduates.

228. (2280) **Interdisciplinary Perspectives on Population (Anthropology 201, Economics 269)**
This course provides an introduction to interdisciplinary perspectives on population, drawing on insights from anthropology, economics and sociology in regards to population questions, theories, and methodologies. The focus is on three topical areas in population studies - understanding fertility change, HIV/AIDS, and population structure and process. S/NC.

230. (2300) **Welfare States (Public Policy and American Institutions 230)**
This seminar examines the political sociology of welfare states and social policies in the United States and abroad. It reviews major theories accounting for the origins and subsequent development of welfare states, explains the “exceptional” nature of American social policy, and discusses recent welfare reforms in the US and Europe as well as welfare state prospects in less developed countries.
231. (2310) **Health Institutions and Professions**
Structure and operation of health professions and health care institutions, both historically and at present. Emphasis on structural determinants of health—such as race, class, and gender differences in disease, mortality, environmental exposures, and health utilization—and the importance of nonmedical interventions in improving health status and reducing inequalities. Written permission required for undergraduates.

232. (2320) **Migration**
A review of the major patterns and differentials in international and internal migration in cross-cultural perspective. Emphasizes theoretical models of migration. Offered in alternate years. Written permission required for undergraduates.

235. (2350) **Social Movements in Health**
Study of social movements dealing with health and illness, with emphasis on contemporary movements such as women’s health, environmental justice, environmental health, breast cancer activism, asthma activism. Examination of historical formation, recruitment, links to other movements, lay-professional interactions, research ethics, effects on science and medicine, and impacts on society.

236. (2360) **Fertility**
An introduction to the study of the social determinants of human fertility. Contemporary and historical populations are considered. Theories and frameworks used to guide fertility research are reviewed. Special topics include: fertility decision-making, gender and fertility, work and fertility, adolescent fertility, and population policies and family planning programs. Written permission required for undergraduates.

238. (2380) **Mortality and Morbidity†**
Analysis of levels and trends of morality and morbidity with special emphasis on social-demographic and economic differentials. Written permission required for undergraduates.

243. (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. Written permission required for undergraduates.

244. (2440) **Method/Theory**
The second half of a two-semester seminar in theory building and research methods for sociologists. Students take a research topic developed in SO 243 as a basis for developing a methodologically sound research proposal. Topics examined include cases, populations and sampling, levels of analysis, cross-sectional and longitudinal research designs, surveys and their alternatives, questionnaires and instrument design, and issues on index construction and measuring data. Written permission required for undergraduates.

250, 251. (2500, 2510) **Teaching Practicum in Sociology**

260. (2600) **Comparative Historical Analysis**
Focuses on the application of theory and method in historical sociology. Different theoretical approaches are assessed in conjunction with reading published works of comparative history. Methodological readings focus on techniques of causal and descriptive inference and modes of data collection, including archival research. Substantive readings concern the study of revolutions, welfare provision, and democracy. Enrollment limited.
261. (2610) *Spatial Thinking in Social Science*
This course reviews ways in which social scientists have incorporated concepts about space, place, and distance into their theories and research. Examples are drawn from many substantive areas, including the spatial organization of communities, spatial inequalities, and mobility. Separate laboratory meetings introduce methods of spatial analysis encountered in the course readings, including an introduction to GIS and related mapping tools.

289. (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. No course credit.

291, 292. (2980, 2981) *Reading and Research*

297. *Special Topics in Sociology*

299. (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. No course credit.

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**South Asian Studies**

John Emigh, Professor of Theatre, Speech and Dance; Andrew Foster, Professor of Economics; Lina M. Frizzetti, Professor of Anthropology; Vernon Henderson, Professor of Economics; Ashok Koul, Senior Lecturer in Hindi-Urdu; Dore Levy, Professor, Comparative Literature and East Asian Studies; Marc Perlman, Associate Professor of Music; Peter Scharf, Senior Lecturer in Classics; James Van Cleve, Professor of Philosophy; Meera Viswanathan, Associate Professor of Comparative Literature and East Asian Studies; Donna M. Wulff, Associate Professor of Religious Studies.

Brown’s involvement with the Indian subcontinent dates back to the early nineteenth century, and interest in the area has been growing at the University for the last twenty-five years. In 1986, this interest culminated in the creation of an undergraduate concentration program in South Asian Studies. The concentration is designed to help students understand South Asia: its contemporary situation, its diverse cultures, its rich past, and its historic and ongoing influence. Comprising the contemporary states of India, Pakistan, Nepal, Bhutan, Bangladesh, and Sri Lanka, South Asia affords an exceptionally rich and varied range of fields of study. Many of these fields are represented by members of the Brown faculty. This breadth is reflected in the flexibility students have in designing their concentration in accordance with their interests.

**Undergraduate Program**
For a complete description of the standard concentration program leading to the A.B. degree, please visit [http://www.brown.edu/Administration/Registrar/concentration.html](http://www.brown.edu/Administration/Registrar/concentration.html).

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**Center for Statistical Sciences**

The Brown University Center for Statistical Sciences (CSS) was founded in 1995 to foster research and statistical education at Brown Medical School and the University at large.
Center activity and personnel have grown over the years to the present configuration of over twenty faculty members, staff biostatisticians, graduate student assistants, and administrative and computing support personnel. The Center is located at 121 S. Main Street and has state-of-the-art computing facilities and networking infrastructure.

*Research:* CSS faculty and staff conduct methodologic research in a number of areas of biostatistics, including statistical methods for the assessment of diagnostic technology, design and analysis of clinical trials, statistical methods for health services and outcomes research, longitudinal data analysis, methodology for the analysis of observational studies, meta-analysis, and statistical methods for psychiatry and the behavioral sciences. The Center also serves as the biostatistics core for both national and local biomedical research projects. Owing to its expertise in the evaluation of diagnostic technology, CSS hosts the Biostatistics Center of the American College of Radiology Imaging Network, a NCI (National Cancer Institute)-funded collaborative group conducting multi-center studies of imaging modalities for cancer screening, diagnosis, and image-guided therapy. In addition to ACRIN, current federally funded collaborative research projects at CSS include the biostatistics cores of International Breast MRI Consortium, the Brown/Lifespan/Tufts Center for AIDS Research, the Brown/Lifespan Transdisciplinary Tobacco Use Research Center, and projects in health services and outcomes research.

*Education:* A graduate curriculum in biostatistics is offered by Center faculty as a track of the graduate program of the Department of Community Health. The program was launched in September 1999 and leads to MS and PhD degrees in Biostatistics. Center faculty also launched the Brown undergraduate concentration in Statistics, in collaboration with departments across the campus. The Center organizes the Brown Statistics Seminar, which is held on Monday afternoons and features talks on current developments in statistical methodology and is open to the entire Brown community. In addition, Center faculty are holding regular "brown-bag" seminars in which topics of current research are discussed. Presenters in these informal seminars include Brown graduate students and faculty as well as other campus- and hospital-based researchers.

*Director:* Constantine Gatsonis, Ph.D., Professor of Medical Science and Applied Mathematics. *Core faculty:* Associate Professor: Joseph Hogan; Assistant Professors: Suddhasatta Acharyya (Research), Jeffrey Blume, Mei-Hsiu Chen (Research), Ilana Gareen (Research), Dawei Liu (Research), George Papandonatos, and Zhijin Wu.

For additional information please visit the Center’s webpage at: 
[http://www.stat.brown.edu/](http://www.stat.brown.edu/)

**Theatre, Speech and Dance**

Professors Barnhill (Emeritus), Emigh, Golub (Chairperson), Marshall, Wilmeth (Emeritus); Associate Professors Schneider, Terry-Morgan; Assistant Professor Ybarn; Senior Lecturers Bach-Coulibaly, Contic, Dunbar, Strandberg, Tannenbaum; Lecturers Hett, McGarty.

**Undergraduate Program**

For a complete description of the standard concentration program leading to the A.B. degree, please visit: [http://www.brown.edu/Administration/Registrar/concentration.html](http://www.brown.edu/Administration/Registrar/concentration.html).
Graduate Program in Theatre and Performance Studies

The Graduate Program in Theatre and Performance Studies offers a number of options for admission. Students with a B.A. may apply for either:

1. The M.A. program. This program offers a Master of Arts in Theatre and Performance Studies.

2. The M.A./Ph.D. program. Students accepted to this program expect to complete a Ph.D. at Brown.

3. The Ph.D. program. Students who already have an M.A. in Theatre and/or Performance Studies or a related field may apply for the Ph.D. Students who received an M.A. from Theatre and Performance Studies at Brown (option 1) may apply to continue with the department for the Ph.D. Students with an M.F.A. may also apply to the Ph.D. but may be required to complete additional coursework.

4. The Brown/Trinity Consortium M.F.A.-Ph.D. M.F.A. Directing students in the Brown/Trinity Consortium may apply for admission into the combined M.F.A.-Ph.D program after their first year of study. The combined program requires at least one year of additional course work to reach a total of 18 courses, as well as comprehensive exams and a scholarly dissertation. Directing students would complete their next 2 years according to the Ph.D. curricular model, but would receive mentoring that would allow them to make the most effective progress towards Ph.D. candidacy.

Master of Arts. For admission to graduate work for the master’s degree in Theatre, a prospective student must present a completed bachelor’s degree or equivalent, with a background in dramatic literature and theatre arts. Other desirable foundation subjects include: speech, fine arts, music, philosophy, anthropology, psychology, history, and literature. GRE verbal aptitude scores are requested for admission. A TOEFL score of at least 500 is required of students coming from non-English speaking countries.

In most cases, a masters program will be designed for the student as a pre-Ph.D. degree, compatible with the requirement for entry into Ph.D. programs in the United States. The A.M. program is also appropriate for theatre professionals who wish to broaden their grasp of theatre theory and history.

A minimum of eight courses of graduate-level work in residence is required for the degree. (A student admitted provisionally may be required to present more than the minimum eight courses or to make up deficiencies at no degree credit. See website for details.) Six courses in the area of theatre studies, performance studies, and dramatic literature are required, including the Seminar in Dramatic Theory (TA 210) and two versions of the Graduate Seminar in Theatre and Performance Studies (TA 220). The remaining two courses of the eight may be in performance, design, or playwriting, or involve further study of history, criticism and theory, depending on the student’s particular areas of scholarly or artistic specialization. No production work is required, though master’s degree candidates are encouraged to participate in all aspects of Brown theatre so long as this participation is not at the expense of the research and scholarship central to the academic program.

Normally, the degree requires completion of a master’s thesis. (One course of the eight required for the degree may be a thesis research course.) The thesis often grows out of research in an advanced course and should constitute a lucid and responsible piece of
scholarship or criticism. With the consent of the graduate advisor, a student may elect to take a degree program without a thesis. The student who does not submit a thesis is required to complete ten courses. The individual student’s program will be arranged in consultation with the graduate advisor (Professor Schneider).

In addition to course and thesis requirements, participation in noncredit colloquia on issues related to graduate study in theatre is required of all enrolled graduate students. It is also expected that a candidate for the master’s degree develop reading competence in a modern foreign language germane to his or her research interests.

Three or four semesters is considered a normal period of time to complete the A.M. degree in Theatre at Brown.

Master of Fine Arts: The Brown University/Trinity Rep Consortium. Sixteen acting students and two directing students are admitted into this program each year, and receive professional training under the auspices of the university and Trinity Rep, Rhode Island’s Tony Award-winning theatre company. The curriculum provides a rigorous technical training program taught by a resident faculty, supplemented by guest artists from the professional and academic arenas.

The primary focus of the acting training is in developing technically skilled, versatile actors capable of working in a variety of styles demanded of the contemporary theatre. The program is based upon a rigorous daily schedule of prescribed classes required of all students, as well as performance work outside the classroom, both in Consortium productions and on the Trinity Rep mainstage.

Directors are given the opportunity to develop their own vision, working in collaboration with actors, by creating new work and rediscovering existing texts. Each year, a course of study is developed based on participation in the core acting program, academic course work, collaboration with playwrights and designers, and extensive production experience.

Admission to the M.F.A. programs in Acting and Directing is based on an audition and interview. For more information contact The Brown University/Trinity Rep Consortium.

Consortium Faculty
Curt Columbus (Chair of the Consortium), Spencer Golub (Director of Academic Studies), Stephen Berenson (Chair of the M.F.A. Programs), Brian McElene (Head of the M.F.A. Acting Program), Kevin Moriarity (Head of the M.F.A. Directing Program), Rebecca Schneider (Head of the M.A. and Ph.D. Programs), Thom Jones (Director of Voice and Speech), Stephen Buescher (Director of Movement and Physical Theatre), Eliza Anderson, Carol Gill, Sue Ellen Kuzma, Eugene Lee, Michael McGarty, Laura Muños, Anne Scurria, Christine Stevens

Doctoral Program: Doctoral students are required to complete 8 courses in residence for the Ph.D. beyond the 10 courses (or 8 courses plus thesis) required by the Department’s M.A. program or their equivalent transferred from other degree-granting institutions. Two of these courses may be independent studies. The courses required for the Ph.D. include a graduate seminar each year (TA 220) and a 200-level seminar in theatrical or performance theory (ordinarily TA 210); a performance practicum; a regularly scheduled noncredit graduate colloquia. (In some cases, based on a student’s transcript, a student may be asked to audit classes in areas of deficiency. See website for details).

The foreign language requirement may be satisfied in one of two ways. Either the student must prove that s/he has developed reading competency in two foreign languages as evidenced by passing a competency exam, or, s/he must take one foreign language to the
level of research competency as demonstrated by use of this language as a primary tool in research on the doctoral dissertation.

To qualify for doctoral candidacy, a student will take comprehensive exams. Generally, the exams are taken three to six months after the completion of course work. The exams consist of one general exam on theatre and performance history and three specialized essay exams based on reading lists prepared by the student’s areas of scholarly interest.

Upon passing the comprehensive exams, a scholarly dissertation is required. The dissertation will be subject to an oral defense.

For information on the M.F.A. programs through the Brown/Trinity Rep consortium, see the Brown University Department of Theatre, Speech and Dance website at: http://www.brown.edu/Departments/Theatre_Speech_Dance/, or go to www.trinityrep.com.

Courses of Instruction

Primarily for Undergraduates

3. (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. Areas of emphasis vary with instructor. First year students only. Interview and written permission required. Enrollment limited. S/NC.
   C. M. CRAWFORD and STAFF.

6. (0060) Introduction to Playwriting Workshop (Africana Studies 6)
   A workshop for students with little or no previous playwriting experience: practicum and theory in various playwriting styles and techniques. Weekly writing assignments and analyses, and development of a major play. Playwriting courses are also available in the Department of English. Enrollment limited. Written permission required. S/NC.
   E. TERRY-MORGAN.

12. Playwriting II (Literary Arts 21)
   Interested students should register for the appropriate section of Literary Arts 21.

21. (0210) Voice for Public Communication
   Explores and builds the vocal tools necessary to most effectively communicate in public. Assignments include speeches, oral interpretation of literature, and monologues. Attendance is mandatory. Enrollment limited. Written permission required. S/NC.
   P. M. HOWELL.

22. (0220) Persuasive Communication
   Provides an introduction to the rhetorical arts of invention, organization, style and delivery, and helps students develop confidence in public speaking through the presentation of persuasive speeches. Primarily for seniors. Interested students should complete an application (available at Lyman 124) well in advance of the semester in which they wish to take the course. Attendance is mandatory. Enrollment limited. Written permission required. S/NC.
   P. M. HOWELL and STAFF.

23. (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

25. (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. Enrollment limited. Written permission required. T. C. HETT.

26. (0260) Stage Lighting
Through the study of classical paintings, film noir, pencil drawing, poetry and script analysis students will learn how to compose and focus light so as to be able to express artistic mood and vision. Enrollment limited. Written permission required. T. C. HETT.

27. (0270) Clothing and the Human Experience: Costume History
A survey of the history and concepts of clothing with a strong emphasis on the art, artists, and political-social movements influencing each major period. Aims to give the theatre designer an increased knowledge of research approaches and resources. The application of historical materials to stage-worthy costumes are discussed. Lab required. Written permission required. P. R. CONTIC.

28. (0280) Costume Design and the Theatre
Introduction to the various elements of costume design in all performance forms and media. Examines the role of the costume designer in relation to other theatre artists. Stresses research techniques and their application. Lab required. Enrollment limited. Written permission required. P. R. CONTIC.

31. (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. Written permission required. S/NC. J. A. STRANDBERG and M. R. BACH-COULIBALY.

32. (0320) Dance Composition
Focuses on building the individual’s creative voice. A movement vocabulary is developed from Western techniques (ballet, American modern dance, Laban/Bartenieff movement analysis, vernacular forms, space-harmony/movement physics, and the body therapies) along with group improvisations and collaboration with artists in other disciplines. Enrollment limited. Written permission required. J. A. STRANDBERG.

33. (0330) Mande Dance, Music and Culture
Examines, by theory and praxis, the techniques and philosophy of dance in Mande culture. Each dance is taught as a highly codified language, with detailed phrasing structures, focus, center, variations of intonation, and qualitative choice. The specific ethnicities are studied in relationship to their music and dance variations. Participants must be physically fit. May be repeated once for credit. Enrollment limited. Written permission required. M. R. BACH-COULIBALY.

42. (0420) Latino/a Theatre and Performance (Ethnic Studies 42)
This course will be an introduction to Latino/a theatre concentrating on the following themes: borders, diaspora and exile, political and personal identities, sexuality, gender and violence, and latino re-imagination of U S and Latin American history. We will read and view Chicano/a, Cuban American and Nuyoricans drama and performance art. First year students only. No prerequisites. Written permission required. P. YBARRA.
50. (0500) Topics

*English Drama, 1350–1700* (English 21)
Interested students should register for English 21.

(0500A) *Introduction to Dramaturgy*
The class will focus on the practice, theory and history of theatrical dramaturgy. Dramatic action, stage storytelling craft and time design will be examined while also exploring and establishing alternative theories of perception and performance organization. Special attention will be paid to the dramaturg’s relationship to the making of new work. K. R. PRESTINZI.

Interested students should register for Africana Studies 99.

For Undergraduates and Graduates

100. (1000) *Intermediate Dance*
Designed to expand the student’s knowledge of and proficiency in dance as an art form. Mainly a studio course, but selected readings, papers, critiques, and field trips are important components of the course. Prerequisite: TA 31 or the equivalent is required. Enrollment limited. Written permission required. S/NC. J. A. STRANDBERG and M. R. BACHCOULIBALY.

102. *Advanced Playwriting* (Literary Arts 101)
Interested students should register for the appropriate section of Literary Arts 101.

110. (1100) *Theatre Management*
† An overview of the process of theatrical performance from script selection to closing, with emphasis on production and stage management. In addition, the role of front-of-house operations and the various theatrical unions are studied as components of different types of theatre organizations, such as regional theatres, opera companies, Broadway shows, and university theatres. Prerequisite: TA 25. L. E. SMITH.

111. *Voices beneath the Veil* (Africana Studies 111)
Interested students should register for Africana Studies 111.

116. (1160) *Style and Performance*
For qualified sophomores, juniors, and seniors who offer TA 23 as a prerequisite. Period scene study and monologues are basis for comment on individual progress in acting/directing. Extensive reading of dramatic texts and historic research materials. Work in voice, movement, dialect, and poetic text. Substantial commitment necessary for preparation of class scenes. Attendance mandatory. Enrollment limited. Written permission required. S/NC. L. MARSHALL.

119. (1190) *Character, Mask, and Action*
An intensive study of issues central to the practice of acting and directing through exercises, monologues, and scene study. Vocal and physical training, along with various techniques designed to enhance credibility on the one hand and theatricality on the other, with particular attention to the relationships between self and other at play in the construction of character and narrative. Prerequisite: TA 23. Enrollment limited. Written permission required. S/NC. J. EMIGH.
121. (1210) Solo Performance
An exploration of the challenges and rewards of performing solo. Students research, write, and perform a one-person show. Other projects may include performance art, stand-up comedy, and monologuing. Substantial time commitment. Attendance mandatory. For advanced students with appropriate background and experience. Submit proposal and resume. Interview in the Fall. Permission required in advance. Enrollment limited. S/NC. L. MARSHALL.

123. (1230) Histories of World Theatre: Ancient - Medieval (Comparative Literature 141, English 131)
A comparative approach to Ancient and Medieval (or otherwise foundational) theatre and performance traditions from Africa, Greece, Rome, India, and Japan. Students will read performance theory as well as Classical play texts or ritual art scores. Some contemporary work will be read for echoes of ancient influence. Written permission required. R. C. SCHNEIDER.

124. (1240) Histories of World Theatre: 1500–1850 (Comparative Literature 141, English 151)
The European theatre from the Renaissance through the Nineteenth Century. Analyses of performance practices from Africa, Indonesia, Euro-Americas, and the African Americas. Written permission required. P. YBARRA.

125. (1250) The Development of Twentieth-Century Theatre in the West (English 171, English 176)
Focuses on the agendas and legacies of key figures and movements in the development of 20th Century Western theatre, from approximately 1870 to 1970. Examines the strategies of naturalism, surrealism, expressionism; the search for an effective poetry of the stage; concepts of character and dramatic action; the relationship of the “legitimate stage” to popular entertainment forms and of Western projects to Eastern examples. Written permission required. J. EMIGH.

127. (1270) Non-Western Theatre and Performance
Considers examples of festival theatre that deploy masks or strategies related to masking and asks why transformative play is so important in these holiday performances. Examples include: New Guinean pay-back ceremonies, civic festivals of Bali and ancient Greece, Yoruba Gelede festivals, and contemporary passion plays in Iran, India, and Vermont. Readings from various academic disciplines. Extensive use of films, slides, audio, and video. Written permission required. J. EMIGH.

128. (1280) Topics in Theatre Studies
(1280A) Acting for the Camera
Introduces students to theories of acting for camera to develop the practical skills required for film and television performance. Attention will be paid to the ways in which stage techniques can be adapted for use in media performance. Students will prepare scenes and monologue material written specifically for film and television. TA 23 or equivalent and written permission required. S/NC. L. MARSHALL.

Advanced RPM Playwriting (Africana Studies 105)
Interested students should register for Africana Studies 105.

Becoming American(s): Race, Space and Genre, in US Theatre 1800–1924
(Ethnic Studies 160)
Explores the articulation of American identities—historical, cultural and racial within playtexts and theatrical productions 1800–1924. Primary focus is on the intersection
between emergent national narratives and policies (i.e. Manifest destiny, Indian Removal), genre (melodrama, tragedy), the cultural identities they create, inscribe and/or transform (Native American, Spanish American etc.) and their various performance spaces in the US. Written permission required. P. YBARRA.

Building the Ensemble
Develops skills in acting, improvisation, directing, teaching, and writing. Through research, performance and collaboration, participants explore individual/group talents and creative passions. Ensemble–created final performance project. Prerequisite: TA 23 or equivalent. Members of Brown/Trinity Playwrights Repertory Apprentice Company must register for credit or audit. Enrollment limited. Written permission required. S/NC. K. R. PRESTININZI.

Creative Collaborations: Performing with Media (Music 186)
Explores collision between theatrical performance and new media for choreographers, dancers, directors, film-makers, performance artists, designers. Through creation of new works will explore practical issues compositional strategies; aesthetics of hybrid performance. Beginning with a directed collaborative project, students will then create independent multimedia performance works. Primarily for students wishing to explore aesthetic and performative issues rather than instruction in technology. Written permission required. S/NC. A. C. SILVERBLATT and J. A. STRANDBERG.

The Expressive Chorus
A physical exploration in the dynamics of the ensemble and the individual performer’s development of the heightened awareness necessary to play in that realm. Physicality, sound, and space explored as terrain for the expressive chorus. Rigorous participation. Group assignments culminate in informal showing of the work. TA 23 and written permission required. S/NC. S. BUESCHER.

(1280G) Improbable Partnering and Exceptional Physical Interactions: Experimental Movement Theater for Dancers and Actors
Explore ideas and acquire tools for developing exceptional human interactions onstage and improbable partnering defined through movement. The aim is to build skill and confidence creating complex relationships between couples and groups. Class consists of movement training, discussions, and rehearsals culminating in the creation of a dance-theater piece performed in the Spring Dance Concert. Written permission required. S/NC. C. N. ELAM.

Intermediate RPM Playwriting (Africana Studies 105)
Interested students should register for Africana Studies 105.

Intermediate Scenic Design
Research, drafting, model building, story boarding, rendering. Script analysis and theatrical vocabulary will be explored through extensive reading of plays. All of the skills and techniques needed to approach a script and design a set will be rigorously examined and practiced. Prerequisite TA 25. Lab Fee. Written permission required. M. P. MCGARTY.

(1280I) Intermediate Set Design
Written permission required. M. P. MCGARTY.

(1280I) Introduction to Dramaturgy
Seminar in the theory and practice of theatrical dramaturgy, with a particular emphasis on new play development in the contemporary American theatre. Examines basic historical theory, contemporary theatrical texts, production dramaturgy, and the role of
the dramaturg in the rehearsal and development process. Written permission required.

O. EUSTIS.

*Japanese Theatre: from Dengaku to Botoh* (Comparative Literature 141, East Asian Studies 141)

Interested students should register for Comparative Literature 141.

*Latino/a Theatre and Performance*

This course will be an introduction to Latino/a theatre concentrating on the following themes: borders, diaspora and exile, political and personal identities, sexuality, gender and violence, and latino re-imagination of U.S. and Latin American history. We will read and view Chicano/a, Cuban American and Nuyorican drama and performance art. First year students encouraged to attend. No prerequisites. Written permission required. P. YBARRA.

(1280N) *New Theories for a Baroque Stage*

This course re-conceptualizes and re-models seventeenth-century “baroque” theatricality through the lenses of Russian formalist theory, phenomenology, (post-)surrealist literature and objects, Oulipian literature of constraints, Deleuzian theory, ontological-hysteric theatre, film, etc. Written permission required. S. GOLUB.

(1280P) *Performance Art and Architecture*

This class will explore 20th-century avant-garde or experimental theatre, architecture, poetry and art movements that meet under the rubric performance art. From futurism to retro pomo homo, Onon to Orian, spam to slam, situationism to site-specific theatre, life/art and body art, etc. Reading the dematerialized body in digital arts, we’ll ask: what’s “new” about new media. Includes some performance work. Written permission required. R. C. SCHNEIDER.

(1280R) *Repertory of Twentieth and Twenty-First Century Dance Masters*

Studio course focusing on learning excerpts from repertories of such dance masters as William Forsythe, Jiri Kylian, Bill T. Jones, Jose Limon, Jack Cole, Talley Beatty, Lester Horton, Pearl Primus, and Paul Taylor. Effort analysis, exploration of the creative process of these artists, and historical and cultural contextualization, to advanced dancers with all technical backgrounds. Written permission required. J. A. STRANDBERG.

*RPM Playwriting* (Africana Studies 105)

Interested students should register for Africana Studies 105.

(1280S) *Seminar in Theatre and Neuroscience*

Investigates biological bases of performative behavior in relation to findings in cognitive neuroscience. Topics to be investigated include: jokes, dreams, creativity, and neural networks; the role of memory in theatre; how emotions are displayed and communicated; synesthesia and the arts; biological constraints on narrative; altered states of consciousness and performance; the relationship of neural representations of the body to archetypes. Enrollment limited. Written permission required. J. EMIGH.

(1280V) *Theatre and Conquest in the Americas, from Cortes to NAFTA* (Ethnic Studies 160)

Explores the intimate relationship between theatre and conquest in the Americas as contained in missionary accounts, plays, performances and visual art from Cortés arrival to the present. Students will analyze plays and performances that stage the Spanish Conquest, consider the theatrical procedures of the conquest and examine
Theatrical representation as a methodology of conquest in the Americas. Written permission required. P. YBARRA.

*The Ties that Bind: Domestic Friction and Renaissance Drama* (English 136)
Interested students should register for English 136.

*Topics in Theatre Studies* (Africana Studies 105)
Interested students should register for Africana Studies 105. Written permission required.

(1281F) *Twenty First Century Drama*
This course is designed to familiarize students with contemporary American playwriting from 2000–2005. We will explore how these plays reflect our current moment with attention to conceptions of gender, sexuality, national identity, trauma and memory. Playwrights may include Jorge Cortinas, Sara Ruhl, Tony Kushner, Juliana Francis, Sabina Berman and Carl Hancock Rux. Written permission required. P. YBARRA.

129. (1290) *Advanced Costume Design*
Costume design and rendering approaches to various genres of performing arts, including opera, musicals, and dance. Designed for the serious student of theatrical design. Advanced work on rendering emphasizing character, practicality, line, form, and color. Lab required. Enrollment limited. Written permission required. S/NC. P. R. CONTIC.

130. (1300) *Advanced Scenic Design and Technical Production*
The examination of the working relationship between designer and director. An emphasis on the design abilities needed to communicate varied visual approaches. Developing the creative, theatrical vocabulary needed to turn a director’s vision into a fully articulated set design. A substantial amount of plays will be read and researched. Drafting and model rendering techniques will be applied. Instructor approval required prior to registration. Enrollment limited. Written permission required. S/NC. M. P. MCGARTY.

131. (1310) *Advanced Modern Dance*
Designed for dancers who have attained an advanced level in any dance technique. The purpose is to help such dancers come to understand both intellectually and kinesthetically the diversity of one of the few indigenous American art forms: modern dance. Enrollment limited. Written permission required. S/NC. J. A. STRANDBERG and M. R. BACH-COULIBALY.

132. (1320) *Choreography*
Designed for those who have had some experience in composition and would like to work, under supervision, on making dances. Emphasizes making full-length dances for small and large groups and demands a sophisticated use of space, dynamics, and music. Further emphasis on viewing and interpreting classic and contemporary works from a choreographic viewpoint. Enrollment limited. Written permission required. J. A. STRANDBERG.

133. (1330) *Dance History: The 20th Century*
An exploration of the major figures and trends in modern dance. May particularly interest American historians, art historians, dancers, and theatre majors. Some attention given to the earlier European traditions of dance and other dance traditions that have contributed to modern dance. J. A. STRANDBERG.
134. (1340) **Dance Styles**
This course focuses on the diverse styles, techniques and movement theories of Modern Dance. The students will practice the techniques and styles and will also study biographical material, view films, and attend live performances when possible. Enrollment limited. Written permission required. J. A. STRANDBERG and M. R. BACH-COULIBALY.

135-136. (1350-1360) **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. May be repeated once for credit. Enrollment limited. Written permission required. S/NC. Half credit. J. A. STRANDBERG.

137. (1370) **West African Traditions in American Dance** (Music 123)
Traces the roots of American vernacular and concert stage forms from West Africa through the Middle Passage, the Caribbean, South America, the southern delta regions, and up into the urban centers. Students have the opportunity to study West African dance, Caribbean dance, Bahian dance, and American jazz dance. Enrollment limited. Written permission required. S/NC. THE STAFF.

138. (1380) **Mise en Scene** (Comparative Literature 141)
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. May be repeated for credit. Written permission required. S. GOLUB.

140. (1400) **Advanced Performance**
An investigation into abstract and nonlinear modes of performance, working from fragmentary and recombined narrative, dramatic, and found sources. Seeks to evolve a conceptual approach to performance of the individual actor-director-writer through supervised and independent exercises and projects. Prerequisite TA 23. For juniors and especially seniors. Enrollment limited. Written permission required. S/NC. S. GOLUB.

141. (1410) **Lyric Stage, 1600 to the Present†**
An examination and analysis of the history, style, content, and stage of opera, operetta, ballad opera, and musical comedy with an emphasis on the fluctuating relationships between the theatrical and musical aspects of each production. Written permission required. K. MORIARTY.

143. (1430) **Russian Theatre and Drama** (Comparative Literature 141, Russian 143)
An overview of Russian theatre and drama from the 18th century to the present. Emphasis on plays as texts and historical documents, and on theatrical conditions, productions, and innovations. All readings are in English. Russian area studies concentrators are encouraged to enroll. Written permission required. S. GOLUB.

144. (1440) **Seminar on Selected Figures in Theatre and Drama†**
May be repeated for credit. Enrollment limited. Written permission required.

152. (1520) **Seminar in Theatre Arts**
Seminar designed primarily for senior theatre arts concentrators, required during Semester VII. Topics focus on career planning and theatre arts subjects not dealt with in other courses. Enrollment limited. Written permission required. S/NC. J. EMIGH.
169. **Literacy, Community, and the Arts: Theory into Practice**  
(Education 169)  
Interested students should register for Education 169.

189. **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.

199. **Senior Honors Thesis Preparation**  
To be taken by all students accepted into the theatre arts honors program.

**Primarily for Graduates**

200. **Performance Theory** (Anthropology 281)  
Interested students should register for Anthropology 281.

210. **Seminar in Dramatic and Theatrical Theory** (English 217)  
Theory of drama from Greeks to Grotowski. Raises questions that are crucial to thinking about directing and acting in the theatre—the nature of theatrical space, political and aesthetic implications of mimesis and narrative form, and the role of theatre in society. Enrollment limited. Written permission required. J. EMIGH.

212. **Revolution as a Work of Art** (Comparative Literature 282, English 276, Russian 212)  
A study of Russian revolutionary culture and new personhood, ca. 1890-1939, with readings in Russian dramatic and narrative fiction, philosophy, film and art criticism, dramatic and political theory, cultural and theatre history. Topics include the revolution of the spirit, the culture of the future, iconography and spectacle, charismatic authority and revolutionary terror. Enrollment limited. Written permission required. S. GOLUB.

220. **Graduate Seminar in Theatre History**  
Enrollment limited. Written permission required.

(2200A) **Abstraction and Resistance**  
A study of the uses of abstraction in modernist and postmodern theatre and drama, film, painting, and narrative fiction and of the engagement of resistance as a performative strategy for conceptualizing such nominally unframed and alogical texts. The works of selected theatre directors and playwrights, philosophers and theorists, novelists, filmmakers, and artists are examined and discussed. S. GOLUB.

**Archive Culture, Memory, and Repetition**  
If live performance is ephemeral, what is its function in archive culture? Theatre, visual culture, orature, and ‘performatives’ will be explored for temporality, memory, and remains. Enrollment limited. Written permission required. S. SCHNEIDER.

**Dramatic and Theatrical Theory**  
Theory of drama from Greeks to Grotowski. Raises questions that are crucial to thinking about directing and acting in the theatre—the nature of theatrical space, political implications of mimesis and narrative form, and the role of theatre in society. Enrollment limited. Written permission required. J. EMIGH.

**New Theories for a Baroque Stage**  
Seventeenth–century theory, drama and theatricality are used as bases for constructing new ideas and languages of ‘the baroque.’ Via the inclusion of modern performative aesthetics of formalism, phenomenology, (post)surrealism, post–structuralism, the
ontological–hysterical, students will develop conceptual models, projects and performances. Enrollment limited. Written permission required. S. GOLUB.

Performance and Photography
The word ‘theatricality’ was first used in the decade photography was invented. This class will explore theatricality, liveness, memory, repetition, and reenactment in representation. We will read theorists and historians such as Barthes, Benjamin, Krauss, Deleuze and Taussig as well as artist (and incidents such as Abu Ghraib) to explore the tangled space between the ‘still’ and ‘still alive.’ Enrollment limited. Written permission required. R. SCHNEIDER.

Theoretical Understanding of/for Theatre and Performance
Selected theoretical constructs will be examined in relationship to the ways in which they effect study and creation of theatrical and performative events. Enrollment limited. Written permission required. S. GOLUB.

250. (2500) Acting, Brown/Trinity Rep Consortium
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 Stanislavski system. A major part of this course will include rehearsal and performance responsibilities. May be repeated once for credit. S/NC. Double credit.

251. (2510) Voice: Power and Range for the Actor
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. May be repeated once for credit. S/NC.

252. (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. May be repeated once for credit. S/NC.

253. (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. S/NC.

255. (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 on 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. S/NC. Double credit.

256. (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. S/NC.

257. (2570) **Movement: Physical Life and Language**
This course is open only to students of the Brown University/Trinity Rep MFA Consortium program. It will help the student incorporate text and physicality in order to create the inner and outer life of a character. Special attention will be given to the student’s repetitive physical patterns, and new ways will be explored in examining the internal and external life of a character. S/NC.

258. (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. S/NC.

260. (2600) **Acting: Shakespeare and Moliere**
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 on the problems of style and language in the plays of Moliere and Shakespeare. S/NC. Double credit.

261. (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. S/NC.

262. (2620) **Movement: The Alexander Technique**
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. S/NC.

263. (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. S/NC.

265. (2650) **Acting: Problems of Style**
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 on the problems of style and language in non-realistic plays. In addition to advanced work on Shakespeare’s texts, the course will explore other playwrights, possibly including Ibsen, Strindberg, Shaw and Beckett. S/NC. Double credit.

266. (2660) **Voice: Singing with Joy**
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. S/NC.

267. (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. S/NC.
Directing: Critical Analysis
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 direct a professional production at Trinity Rep Company. S/NC.

Acting: Monologue Performance
This is a two-credit course and is open only to students of the Brown University/Trinity Rep MFA Consortium program. Acting assignments will include solo work presented in a variety of ways. These might include a selection of monologues and songs presented by the students to show the full range of his or her abilities. A performance might also include a solo piece written by the student and presented as a single-actor production. S/NC. Double credit.

Voice: Dialects and Accents
This is a two-credit course and 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 accents 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. S/NC.

Physical Theatre
This is a two-credit course and 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. S/NC.

Directing: Design in the Collaborative Process
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. S/NC. Double credit.

Acting and Directing: Practical Application
This is a two-credit course and is open only to students of the Brown University/Trinity Rep MFA Consortium program. The course will prepare acting students for a graduate showcase which will be performed in New York City and Los Angeles for agents, casting directors, and other professionals in the industry. Directing students will stage a New York showcase of their work for agents, artistic directors, and other theatre professionals. The course will also cover audition and interview techniques. Video work will be explored in detail, examining the difference between stage and on-camera direction and performance. S/NC. Double credit.

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. S/NC. Double credit.
277. (2770)  **Directing: Practical Application**  
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. S/NC. Double credit.

280. (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.

285. (2981)  **Master’s Thesis Research**

289. (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. No course credit.

299. (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. No course credit.

**Related Courses**

Courses in dramatic literature and in the relationship of theatre to culture offered in other departments and programs—such as English, Modern Culture and Media, Comparative Literature, Afro-American Studies, Classics, East Asian Studies, French Studies, German Studies, Italian Studies, Hispanic Studies, Anthropology, Music, and Religious Studies—may be taken for credit in the concentration program and the master of arts degree program in theatre arts with the approval of the appropriate advisor. Other courses related to theatre, speech, dance and allied media may also be approved for concentration credit.

**Urban Studies**

The following members of the faculty are associated with the Urban Studies Program:  
Professor Howard P. Chudacoff (History); Professor J. Vernon Henderson (Economics); Professor David R. Meyer (Sociology); Professor James Morone (Political Science); Professor Dietrich Neumann (History of Art and Architecture); Professor Marion Orr (Political Science); Associate Professor E. Tamar Katz (English); Associate Professor Patrick M. Malone (American Civilization); Associate Professor Hilary Silver (Sociology); and Adjunct Professor Emeritus Melvin L. Feldman (Urban Studies).

The Urban Studies Program focuses on urban phenomena through the approaches of different disciplines, thus providing an interdisciplinary context in which to understand various dimensions of the urbanization process. Although the program provides sufficient flexibility to allow students to pursue specific interests without being overly bound by requirements, it is designed so that there is a core content. The primary aim of the program is to contribute to a broad, liberal education. Its purpose is to satisfy the needs of those students who are interested in urban problems, but who do not feel well served by the existing departmental programs in a single discipline.

The program emphasizes development of the students’ powers of analysis and their ability to communicate in a convincing fashion. As a result, it develops an excellent
background for students considering such careers as city planning, law, and business administration that require graduate training.

The program also aims to serve those urban studies concentrators who may want to do graduate work within an urban studies-related discipline, e.g., economics, sociology, political science. They are encouraged to consider two approaches: (1) as part of their program of study, take several courses in the selected traditional discipline; or (2) undertake a double concentration (one in urban studies and one in the selected traditional discipline). Either approach will satisfy standard graduate school admission requirements.

Because the Urban Studies Program aims for an understanding of the social, economic, demographic, and political consequences of urban development and a sensitivity to the spatial and aesthetic implications of such development, one of the central features of the concentration program is its core curriculum, including one grouping of courses in American civilization, history of art and architecture, economics, history, political science, and sociology. A concentration in urban studies includes one listed course from each of at least three of the above disciplines. Also included as a second part of the core curriculum are special urban studies courses designed to extend the students’ thinking into multi- or interdisciplinary areas. Three such courses are required. The flexibility of the program is evident in the choice of two courses from the complementary curriculum. Here, students are encouraged to consider additional course offerings including, but not limited to, those in the traditional disciplines.

Undergraduate Program

For a complete description of the standard concentration program leading to the A.B. degree, please visit the department’s website at:
http://www.brown.edu/Departments/Urban_Studies/ or visit http://www.brown.edu/Administration/Registrar/concentration.html.

Courses of Instruction

Primarily for Undergraduates

   Interested students should register for the appropriate section of American Civilization 15.

20. Word on the Street
   American Metropolis (English 20)
   Interested students should register for English 20.
   Word on the Street: The City in Postcolonial Literature (English 20)
   Interested students should register for English 20.

21. (0210) The City: An Introduction to Urban America (Sociology 21)
   What is special about urban life? How and why do cities differ? How has the way we think about the city changed over time? Can we solve urban problems? This course offers an interdisciplinary approach to the history, physical design, spatial form, economy, government, cultures, and social life of cities in the U.S. and beyond. D. R. MEYER.

22. City Politics (Political Science 22)
   Interested students should register for Political Science 22.

40. City and Sanctuary in the Ancient World
   (Archaeology and the Ancient World 40, Classics 54)
   Interested students should register for Archaeology and the Ancient World 40.
55. *Florence and Tuscany in the Fifteenth Century*  
(History of Art and Architecture 55, Italian Studies 96)  
Interested students should register for History of Art and Architecture 55.

56. *The Visual Culture of Early Modern Rome*  
(History of Art and Architecture 56, Italian Studies 56)  
Interested students should register for History of Art and Architecture 56.

70. *Nineteenth-Century Architecture*  
(History of Art and Architecture 70)  
Interested students should register for History of Art and Architecture 70.

80. *City Novels*  
*City Novels* (English 80, Ethnic Studies 79)  
Interested students should register for English 80.

85. *Modern Architecture* (History of Art and Architecture 85)  
Interested students should register for History of Art and Architecture 85.

86. *Contemporary Architecture* (History of Art and Architecture 86)  
Interested students should register for History of Art and Architecture 86.

For Undergraduates and Graduates

100. (1000) *Fieldwork in the Urban Community* (Environmental Studies 100)  
A fieldwork course with limited enrollment. Each student undertakes a fieldwork project in close collaboration with a government agency, a nonprofit association, or a planning firm. In weekly seminar meetings, the class examines a series of urban issues and discusses fieldwork methodology. Students also schedule regular appointments with the instructor. Enrollment limited. Written permission required. P. M. MALONE.

101. (1010) *Fieldwork in Urban Archaeology and Historical Preservation*  
Study of the surface and subsurface features of the urban built environment. An introduction to research methods and fieldwork procedures used by archaeologists and historical preservationists who work on urban sites. Students undertake fieldwork projects that involve archival research, close examination of historic structures, and theoretical analysis of the changing urban landscape. Enrollment limited. Written permission required. THE STAFF.

110. *Introductory Statistics for Social Research* (Sociology 110, Public Policy and American Institutions 110)  
Interested students should register for Sociology 110.

111. *Introductory Statistics for Education Research and Policy Analysis* (Education 111, Public Policy and American Institutions 111)  
Interested students should register for Education 111.

117. (1170) *Corporations and Global Cities* (Sociology 117)  
Explores the decision-making processes of multinational firms in finance, wholesaling, commodity brokerage, manufacturing, and advanced corporate services (law, accounting, management consulting) and the growth and interactions among global cities such as New York, London, Tokyo, Cairo, and Hong Kong. Also considers the impact of multinationals and these cities on world regional change. Prerequisite: previous course work in a social science recommended. D. R. MEYER.
118. *The Problems of American Cities*† (Political Science 118)
Interested students should register for Political Science 118.

121. *Pompeii* (History of Art and Architecture 120)
Interested students should register for the appropriate section of History of Art and Architecture 120.

Interested students should register for Political Science 132.

133. *Remaking the City* (Sociology 133)
Interested students should register for Sociology 133.

134. *Introduction to Geographic Information Systems for Environmental Applications* (Geological Sciences 132, Environmental Studies 190)
Interested students should register for Geological Sciences 132.

140. *Political Sociology*† (Sociology 140)
Interested students should register for Sociology 140.

141. *Urban Economics* (Economics 141)
Interested students should register for Economics 141.

142. (1420) *Topics in Urban Economic Policy* (Economics 142)
Designed for either economics or urban studies concentrators. Examines urbanization processes and urban public policy in developing countries, in particular China. Also draws on historical and recent experience in the U.S. Policy areas include policies affecting urbanization, migration, and industrial location; policies affecting housing, land use, and urban form; and policies affecting fiscal decentralization and infrastructure investments such as transportation. J. V. HENDERSON.

152. *Technology and Material Culture in America: The Urban Built Environment* (American Civilization 152)
Interested students should register for American Civilization 152.

Interested students should register for American Civilization 153.

Interested students should register for History 154.

Interested students should register for Political Science 160.

Interested students should register for the appropriate section of American Civilization 161.

162. *Introduction to Econometrics* (Economics 162)
Interested students should register for Economics 162.

163. *Public Schools and Politics* (Education 164, Political Science 182)
Interested students should register for Education 164.
164. **Social Inequality** (Sociology 164)
Interested students should register for Sociology 164.

176. **Education and Public Policy** (English 176)
Interested students should register for the appropriate section of English 176.

177. **City, Culture, and Literature in the Early Twentieth Century**
(English 176)
Interested students should register for the appropriate section of English 176.

182. **American Urban History to 1870** (History 182)
Interested students should register for History 182.

183. **American Urban History since 1870** (History 183)
Interested students should register for History 183.

(History of Art and Architecture 185)
Interested students should register for History of Art and Architecture 185.

187. **Seminars in Urban Studies**

(1870A) **American Culture and the City** (Political Science 182)
Cities rest uneasily in American political culture. This course explores that culture and how it shapes our politics and policies. Readings include Alexis de Tocqueville, Gustave de Beaumont, Horatio Alger, Richard Wright, Tom Wolfe, and Margaret Atwood. A film will be screened each week. Enrollment limited. Written permission required. J. A. MORONE.

**Architecture of Downtown Providence from Late Nineteenth Century to the Present**
(History of Art and Architecture 191)
Interested students should register for History of Art and Architecture 191.

(1870B) **Business Networks in Asia** (Sociology 187)
Covers business networks of individuals and firms in finance, trade, and a wide range of corporate sectors, within and among Asian cities including Hong Kong, Singapore, Tokyo, Shanghai, Mumbai, and Bangkok. Business actors are placed in social organizational, economic and political contexts. Networks covered include Overseas and mainland Chinese, Indian, Japanese, Korean, and “foreign” ones from outside Asia. Enrollment limited. Written permission required. D. R. MEYER.

(1870D) **Downtown Development** (Sociology 187)
Study of the revitalization of central business districts (CBDs) in large United States cities. Topics include the CBD as a land use system, retail change, the rise of white-collar offices, gentrification near the CBD, and the political economy of CBD redevelopment. Providence’s CBD used as a case example; guest speakers discuss its change; field trips are taken. Enrollment limited. Written permission required. D. R. MEYER.
(1870E) *Green Cities: Parks and Designed Landscapes in Urban America*
Examines the cultural meaning and public use of greenspace in American towns and
cities. Covers city parks and metropolitan park systems; the landscaping of riverfronts,
streets, cemeteries, and company property; and the contributions of landscape
architects such as Olmsted and Manning. Begins in the 17th century with the creation
of Boston Common and ends by reviewing the latest greenway plans for Providence.
Enrollment limited. Written permission required. P. M. MALONE.

(1870F) *Housing and Homelessness* (Sociology 187)
An introduction to community-based planning, local economic development
strategies, and housing policy. Students perform research in a Providence
neighborhood. Open to urban studies concentrators and by permission. H. SILVER.

(1870H) *Rivers and Cities*
Rivers promote urban development and serve as important resources and cultural
amenities for communities. This interdisciplinary seminar looks at the use and abuse
of selected rivers which have run by or through American cities from the colonial
period to the present. Enrollment limited. Written permission required. P. M.
MALONE.

(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. Written
permission required. M. E. ORR.

188. *Introduction to GIS: A Social Science Perspective*
(Sociology 187)
Interested students should register for the appropriate section of Sociology 187.

189. *Ethnic Los Angeles*
*Ethnic Los Angeles* (History 197, Ethnic Studies 187)
Interested students should register for History 197.

191. (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.

192. *Chicago and America* (History 192)
Interested students should register for History 192.

197. *Urban Crisis and American Political Culture, 1932–1984*
*Urban Crisis and American Political Culture, 1932–1984* (History 197)
Interested students should register for History 197.

Primarily for Graduates

204. *The Cities of Decapolis*
(Archaeology and the Ancient World 204)
Interested students should register for the appropriate section of Archaeology and the
Ancient World 204.
254. **Roman, Byzantine and Early Islamic Jerusalem**  
(Archaeology and the Ancient World 254)  
Interested students should register for the appropriate section of Archaeology and the  
Ancient World 254.

**Visual Art**

Professors Edwards, Feldman, Fishman, Mayer (Emeritus); Associate Professors Bostrom,  
Coppin, Malik (Emeritus); Assistant Professor Myoda; Adjunct Lecturers Ewing, Lamb,  
Masters, Stupar, Stuckey, Young.

**Undergraduate Programs**

For a complete description of the following standard concentration programs leading to the  
bachelor’s degree, please visit:  
[http://www.brown.edu/Administration/Registrar/concentration.html](http://www.brown.edu/Administration/Registrar/concentration.html)  
Art-Semiotics  
Visual Art

For additional information regarding the Department of Visual art, please visit the  
department’s website: [http://www.brown.edu/Departments/Visual_Arts/](http://www.brown.edu/Departments/Visual_Arts/)

**Courses of Instruction**

**Primarily for Undergraduates**

10. (0100) **Studio Foundation**
An introduction to basic visual art concepts, exploring a range of materials with emphasis  
on experimentation and analysis of visual relationships. Drawing is a vital part of this  
course. Enrollment limited. Written permission required. D. STUPAR and L. YOUNG.

11. (0110) **Advanced Studio Foundation**
Some students arrive at Brown with a greater understanding of visual art principles than  
most, yet need an introduction to other aspects before taking more advanced courses. Figure  
drawing is practiced throughout the semester, utilizing a variety of media. Weekly outside  
assignments explore diverse themes and become the subject of comprehensive class  
discussions. Serves as a prerequisite to upper-level courses, as does VA 10. Enrollment  
limited. Written permission required. D. STUPAR.

12. (0120) **Foundation Media: Motion Graphics**
This digital studio course focuses on the theory and production of time-based motion  
graphics. The principles and techniques of cel animation, video effects, and some basic 3D  
amination (all with accompanying sound tracks) will be addressed in readings, screenings,  
and a number of specific projects. Attendance of scheduled screenings outside of class time  
is mandatory. Knowledge of the Mac OS is recommended. Enrollment limited. Written  
permission required. S/NC. P. MYODA.

13. **Introduction to Digital Media Production**  
(Modern Culture and Media 75, Music 86, Visual Art 75)  
Interested students should register for Modern Culture and Media 75.

14. **Images from Science, Images for Science** (Physics 10)  
Interested students should register for the appropriate section of Physics 10.
71. *Introduction to Filmmaking* (Modern Culture and Media 71)
Interested students should register for Modern Culture and Media 71.

72. *Intermediate Filmmaking* (Modern Culture and Media 72)
Interested students should register for Modern Culture and Media 72.

73. *Introduction to Video Production* (Modern Culture and Media 73)
Interested students should register for Modern Culture and Media 73.

74. *Intermediate Video Production* (Modern Culture and Media 74)
Interested students should register for Modern Culture and Media 74.

75. *Introduction to Digital Media Production*  
(Modern Culture and Media 75, Music 86)
Interested students should register for Modern Culture and Media 75.

80. *Sound for a Moving Image*† (Modern Culture and Media 80)
Interested students should register for the appropriate section of Modern Culture and Media 80.

For Undergraduates and Graduates

111. (1110) *Drawing I*
Drawing from nature, still life, the model, and the imagination in a variety of media. A continuing series of outside assignments emphasized. Visits to galleries and museums and pertinent exhibitions may be undertaken. The portfolio of the individual student will be the basis of evaluation. Great emphasis is put on classroom participation. Enrollment limited. Written permission required.

112. (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: VA 111. Enrollment limited. Written permission required.

113. (1130) *Drawing for Projection*
A studio course which will address the issues and techniques of drawing for motion, animation and/or projection. We will undertake one semester-long project undertaken with several short parallel works. Enrollment limited. Written permission required. S/NC.

121. (1210) *Printmaking*
Lithography, Etching, Silkscreen or Relief printing will be taught depending on the semester. May be repeated for credit. Enrollment limited. Written permission required.

124, 125. (1240, 1250) *Art of the Book*
Investigates the book as an art form and provides students with the background and means necessary for the complete creation of a book: the making of paper, creating the image by woodcut, lithography, silkscreen, and inventing the binding procedure. While students may take VA 124 only, they may not enroll in 125 without 124 as a prerequisite. May be repeated once for credit. Enrollment limited. Written permission required. W. S. FELDMAN.

131. (1310) *Painting I*
Designed to accommodate a variety of interests and aptitudes. Provides basic instruction in media and painting procedure, but emphasizes the development of the image as a visual statement. Covers the building of stretchers, basic color principles, and painting media and procedures. Slides and related books and articles are discussed. Individual criticism is given; participation in regularly scheduled group discussions is required. Enrollment limited. Written permission required. W. EDWARDS and L. BOSTROM.
132. (1320) Painting II
The advanced class covers information beyond the introductory level. Individual criticism is emphasized. Students are required to complete all structured assignments and to participate in regularly scheduled discussions. Prerequisite: VA 131. May be repeated once for credit. Enrollment limited. Written permission required. L. BOSTROM and W. EDWARDS.

141. (1410) Sculpture I
This introductory studio course addresses basic sculptural methods, i.e., additive, subtractive, casting, and assemblage, and materials, i.e., wood, metal, plaster, and found objects. Students develop sculptural solutions to a given set of problems. Contemporary issues raised in critiques and readings. No prior experience in sculpture is required. Extensive outside work is expected. Enrollment limited. Written permission required. P. MYODA.

142. (1420) Sculpture II (Installation)
This advanced studio course explores a number of sculptural theories and practices. Students develop sculptural solutions to a given set of problems, using materials and methods of their choosing. Contemporary issues raised in critiques and readings. Completion of Sculpture I or comparable experience in some type of three-dimensional practice is requisite. Extensive outside work expected. May be repeated for credit. Enrollment limited. Written permission required. P. MYODA.

143. (1430) Elm Tree Project
This is an intensive studio course requiring a considerable out of class time commitment. Enrollment limited. Written permission required. R. FISHMAN.

151. (1510) Photography I
Introductory course in black and white photography, emphasizing production and theory with emphasis on pictures that tell stories. Students execute a portfolio of original photography images, and examine and analyze the function, purpose and effectiveness, of those images, through a series of writings. Through execution of visual problems and writings students examine the content and function of contemporary analog/film images. A 35 mm film camera is required. Enrollment limited. Written permission required. K. COPPIN.

152. (1520) Photography II
Intermediate course in black and white photography, emphasizing production and theory. Continuation of Photography I with a focus on digital image processing, digital printing output, and critical analysis of computer digitized images. Through execution of visual problems and writings students examine the content and function of digital imaging technology and production. Emphasis is placed on pictures that tell stories. Enrollment limited. Written permission required. K. COPPIN.

171. (1710) New Genre
An introduction to the use of digital techniques in visual art using bitmapped images, digital cameras, scanners, and printers. Student work output primarily in print-based images. Readings and discussions focus on the theoretical and practical issues raised by new imaging technologies. Enrollment limited. Written permission required.

172. (1720) New Genre
An exploration of screen-based images. Students construct web sites and multimedia works. Readings and discussions focus on artists’ use of screen-based images, including CD ROMs, web sites, and other interactive works. Prerequisite: VA 171 or a thorough
knowledge of bitmapped image techniques. Enrollment limited. Written permission required.

180. (1800) **Seminars in Production**
Topics change from year to year and instructor to instructor. In each session enrollment is limited to 20. Written permission will be given after the first meeting. Topics might include: Public Art, Problems of Documentary, Approaches to Digital Cinema, the Radiophonic and Radio, Accessorizing, Painting, Installation of Mixed Media, etc. May be repeated for credit. Enrollment limited. Written permission required.

191, 192. (1910) **Individual Study Project in the Practice of Art**
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.

199. (1990) **Honors**
Section numbers vary by instructor. Please see the registration staff for the correct section number to use when registering for this course.

**Visual Art Graduation Requirement**
All Visual Art concentrators are required to arrange and present an individual exhibition of their work in their final semester. This requirement does not carry course credit, but is a graduation requirement.

**Courses at the Rhode Island School of Design**
It is possible for undergraduates enrolled at Brown to take courses in studio work and art history at the Rhode Island School of Design (RISD) and to have such work credited toward their degree requirements. Four courses may be taken at the RISD for Brown credit during a student’s undergraduate career. If more courses are needed, the student must petition the Committee on Academic Standing for approval. For information on applying RISD courses toward fulfillment of the visual art concentration, see the description of the concentration at [http://www.brown.edu/Administration/Registrar/concentration.html](http://www.brown.edu/Administration/Registrar/concentration.html).

Forms and instructions for cross-registration at RISD are available in the Brown registrar's office.

**Watson Institute for International Studies**
Professors (Research) Thomas Biersteker, James Blight, James Der Derian, Catherine Lutz, Barbara Stallings (Director), Kay Warren; Senior Fellows Sue Eckert, Mark Garrison, Susan Graseck, Catherine Kelleher, Sergei Khrushchev, Xu Wenli; Associate Professors (Research) Peter Andreas, Keith Brown, Brian O’Neill, Nina Tannenwald; Watson Fellow Geoffrey Kirkman; Assistant Professors (Research) Leiwen Jiang, Simone Pulver; Research Associate Liza Bakewell; Professors At Large Fernando Henrique Cardoso, Shirley Brice Heath; Faculty Fellows Ross Levine (Economics), Patrick Heller (Sociology).
The Watson Institute for International Studies (www.watsoninstitute.org) is dedicated to research and teaching on international affairs. Named for Thomas J. Watson Jr. ’37, the institute analyzes the most pressing global problems of our time and seeks initiatives to address them from a multidisciplinary and multinational perspective. Working at the intersection of academia and policymaking, the institute address four primary domains: global security, political economy and development, identity and culture, and the environment. Within these programs, some 40 research initiatives analyze global issues that range from climate change to nuclear proliferation to foreign aid to terrorism.

The institute houses five university instructional programs—Development Studies, International Relations, Latin American Studies, Middle East Studies, and South Asian Studies. Institute faculty add over 25 courses to the Brown curriculum each year. In addition, Brown undergraduate and graduate students actively participate with faculty on institute research projects. The institute also provides curriculum and professional development opportunities for high schools nationwide, through its Choices for the 21st Century Education Program.

Faculty number more than 150 professionals at the institute or affiliated with it. Each year, they publish more than 100 research findings as books, major policy reports, book chapters, journal articles, documentaries, and electronic publications. These works have received awards from governments and major professional organizations including the American Political Science Association, International Studies Association, American Sociological Association, African Studies Association, and Middle East Studies Association.

Joint initiatives across the university include strong inter-departmental collaborations, such as those with the Anthropology, Economics, History, Political Science, and Sociology Departments, as well as relationships with over 10 Brown centers and institutes, such as the Center for Latin American Studies, International Health Institute, and Population Studies and Training Center. Beyond the university, the institute collaborates on research with educational institutions, foundations, governments, and intergovernmental and nongovernmental organizations (NGOs). In 2005 the Watson Institute was granted NGO consultative status by the United Nations.

Many of the approximately 120 seminars, workshops, and conferences sponsored by the institute each year are born of these partnerships. Recent events have included the student-initiated “Strait Talk Symposium,” on China-Taiwan relations; a workshop on “The Production of Cultural Knowledge in the United States Military;” and a joint conference with Brown University’s Environmental Change Initiative on “Frontiers of Environmental Change Research: Climate Change Drivers, Impacts, and Policy.”

The institute also houses and supports two major academic journals: Studies in Comparative International Development, a leading, interdisciplinary journal in the area of development studies, and the Brown Journal of World Affairs (BJWA). Founded in 1993, BJWA is a widely recognized scholarly publication in the field of international studies, edited and managed entirely by Brown undergraduates.

Research, teaching, and events at the institute increasingly involve the use of media, such as video, various forms of Internet broadcasting, and interactive web-based commentary. Media is also analyzed for its role in shaping international affairs.

For more information about the institute and its programs, contact Geoffrey Kirkman, associate director, at 401-863-7945 or geoffrey_kirkman@brown.edu.
Wayland Collegium for Liberal Learning

Growing out of a number of existing and earlier activities, the Francis Wayland Collegium for Liberal Learning was established in 1980 as a community of faculty united by a unique system of support for inquiries focused on interdisciplinary perspectives on significant issues of human life.

The Collegium’s work proceeds in three closely related directions. First, it encourages curricular offerings in interdisciplinary studies. Courses may stress a particular mode of thought, expression, or action, and examine its aims, methods, presuppositions and implications; they may consider the place of a particular mode in a broader context of social institutions, ideas, and values; they may study various relations among different modes, and explore the possibilities for an integrative treatment of them; and the courses must focus on fundamental themes of human life or problems of society. The Collegium’s second purpose is to furnish a setting in which faculty can discover and develop common interests and mutual support. It seeks to foster faculty growth and renewal in interdisciplinary learning by providing opportunities for discussion of significant issues. It also offers opportunity for reaching faculty members whose interests in such topics and methods are only beginning to develop. The Collegium currently sponsors grants for curricular development, study groups and seminars in which a small group of faculty members work together for a year on a particular topic, thereby contributing to curricular development, publication, and growth of new research interests. Thirdly, the Collegium sponsors such activities as lectures and conferences in order to broaden its contribution to the consideration of major human concerns by faculty, students, and the public at large.

About 180 members of the faculty who especially share the Collegium’s concerns are appointed as Fellows, for renewable periods of three years, and one member is Senior Fellow. The Collegium is directed by an Executive Committee consisting of six fellows, the Senior Fellow, and the dean of the College.

For additional information about the Collegium and its work please visit: http://www.brown.edu/Faculty/Wayland_Collegium/.

Extradepartmental Courses

University Courses

In an intellectually creative atmosphere, ideas for new academic approaches and new kinds of courses may and should arise. Among these courses are offerings that address themselves to major themes and problems requiring a different perspective than generally governs departmental offerings. They provide students with the opportunity to integrate their understanding of major areas of learning and explore relationships among diverse forms of human experience; or to relate one or more disciplines to a broader context; or to focus on large and fundamental problems that need to be approached through several disciplines or by ways not found in existing disciplines. University courses originate with individual instructors and are retained in the curriculum only so long as these instructors wish to teach them.
Primarily for Undergraduates

10. Experience and Explanation—Dialogues Among the Disciplines
(Physics 10, Classics 10, Comparative Literature 81, Theatre, Speech and Dance 10)
Interested students should register for Physics 10.

14. (0140) Insights into Chemistry: A Historical Perspective (Chemistry 14)
We begin with the chronicle of a great scientific quest: the 19th-century search for the structure of molecules. A consensus was reached only after many decades of experiments, interpretations and misinterpretations, polemics, and controversies both scientific and personal. Our purpose is to show how theories are shaped and to give insight into the human dimensions of science. We next detail the transfer of the new chemistry to the marketplace, from its beginnings in the synthetic dye industry. Finally, we conclude with the role of chemistry in World War I and the emergence of the American organic chemical industry in the post-war years. THE STAFF.

20. Introduction to Akkadian (History of Mathematics 20, Classics 20)
Interested students should register for History of Mathematics 20.

44. (0440) Recovering the Past
Examines basic assumptions that guide the historical sciences (geology, archaeology, evolutionary biology/paleontology) in relation to key concepts that have produced credible ideas about the past. Why are we willing to accept some ideas about the past and not others? We investigate concepts such as continental drift, pleistocene habitats and human adaptation, and biological adaptations and extinctions. Constitutes an interdisciplinary effort to explore, for example, to what extent scientific laws apply to human culture and history. R. GOULD.

49. (0490) Introduction to Science Studies (Biology and Medicine 192)
What exactly is “science”? How do scientific ideas become knowledge? How do our society, government, and culture understand and respond to science and medicine? The interdisciplinary field of science studies is introduced through exploration of topics that include gender and science, race and science, laboratory studies, and the “science wars.” Enrollment limited. Written permission required. J. RICHARDS.

54. (0540) 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. Enrollment limited. Written permission required. H. D. ROTH.

62. Muslims, Jews, and Christians in Medieval Iberia†
(Medieval Studies 62, Comparative Literature 181, History of Art and Architecture 47, Portuguese and Brazilian Studies 96, Hispanic Studies 121)
Interested students should register for Medieval Studies 62.

For Undergraduates and Graduates

110. (1100) Imagining an Equitable University†
The course studies moments over the past half century in which the University was faced with a need to be more inclusive, with an emphasis on issues of race and gender. Our goal
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is to create an alternative history of Brown that enables new voices to evaluate how the process of governance has worked. Participation by President Simmons depends on her availability. Enrollment limited. Written permission required. S/NC. K. S. SACKS.

116. (1160) Drug and Alcohol Addiction in the American Consciousness (BioMed-Community Health 168)
The roots of our responses to addiction lie deep in the American consciousness. Conceptions of drug and alcohol addiction are explored in works of history, law, policy, and literature. Students take an active role in leading seminar discussions. Reading and writing assignments are rigorous. There is no final examination. Enrollment limited. Written permission required. D. LEWIS.

140. (1400) The Cultural History of Disability Minorities in the United States† (BioMed-Community Health 140)
Due to the efforts of people with disabilities to secure their civil rights, “disability” has begun to be perceived as a social identity and role rather than solely a medical condition. This course analyzes the cultural history of disability, giving attention to cross-cultural comparisons. Broad topics include: concepts of disability; disability and bioethics; images of disability in film, the media, art, and literature; and political movements of people with disabilities. C. POORE.

152. (1520) The Shaping of World Views (Portuguese and Brazilian Studies 152)
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. Written permission required. O. ALMEIDA.

170. (1700) Transformation of the Research University
This seminar will focus on recent transformations of the academic, instructional and administrative character of the elite American research universities. Emphasis will be on selected pressure points (such as research funding, diversity, technology, market influence) that drive change and shape the future. Enrollment limited. Written permission required. W. SIMMONS.

Independent Study Plans

Independent Study Projects
(Including Internship)

Most academic departments offer students opportunities to work independently with one of its faculty members. Students may approach a professor, and request to do a departmental independent study which, if successfully arranged, takes place under the rubric of the sponsoring department’s course code (i.e. ECON 1970 or SOC 1970.) When such an option is not available the student may choose to propose an Independent Study Project (ISP) through the College Curriculum Council. Each course proposal must have the approval of a faculty sponsor who shall be responsible for the scrutiny of the proposal, the evaluation of the work done, and the assignment of a grade. The faculty sponsor is not expected to give regular tutorial instruction.
Proposals for Independent Study must be submitted in accordance with guidelines established by the College Curriculum Council on a form provided by the dean’s office. The proposals will be reviewed by the College Curriculum Council to assure the academic quality of the proposed course and to avoid undue duplication. Independent study proposals for the fall semester are due by April 1 and for the spring semester by November 8.

Group Independent Study Project

*Group Independent Studies* are cooperative inquiries in which participating students bear major responsibility for both planning and conduct of the work. They provide an opportunity for academic pursuits which might not be available in regular courses. They carry course credit.

Each Group Independent Study is sponsored by an instructor who holds a teaching appointment in Brown University and whose central functions are to assess the proposed study, to provide advice during the work, and to be responsible for the evaluation of each student’s work. Group Independent Studies permit instructors to interact with more students than independent studies can realistically permit. A Teaching Assistant or Teaching Associate may sponsor a Group Independent Study if the department chair recommends that he or she be permitted to do so.

Proposals for Group Independent Studies should be made on a form provided by the dean’s office. They will be reviewed by the College Curriculum Council to assure the academic quality of the proposed study and to avoid undue duplication. Proposals for the fall semester should be turned in by April 1 of the preceding spring semester; proposals for the spring semester are due November 8th of the fall semester.

Each group should be sponsored by an instructor holding a teaching appointment at Brown University who is prepared to assess the proposed study, to provide advice during the project, and to be responsible for the evaluation of each student’s work. Normally this person will be a faculty member. Under exceptional circumstances a graduate student with appropriate expertise and teaching experience would be eligible to be a sponsor. In this case, the proposal must be accompanied by a curriculum vitae for the graduate student and a statement of qualification and recommendation from the chair of the graduate student’s department. The chair will assume ultimate responsibility for the academic quality of the GISP. The College will not offer remuneration for sponsors of GISPs.

At the end of each Group Independent Study, a joint student-faculty evaluation report of the accomplishments of the project must be submitted by the faculty sponsor to the College Curriculum Council. Note: students and instructors interested in setting up a Group Independent Study should consult the document, “Guidelines for Group Independent Study,” which is available in the dean’s office and the Resource/Academic Support Center.
Academic Facilities and Educational Resources

Libraries

University Library
The Brown University Library supports the educational and research mission of the University by serving as a local repository for and principal gateway to current information and the scholarly record. The library contains more than 6 million items, including bound volumes, periodicals, maps, microforms, videos, sound recordings, sheet music, manuscripts, electronic media, and government documents. Currently the Brown University Library is one of the largest academic libraries in New England and ranks 45th in size among the 113 members of the Association of Research Libraries (2004-5 ARL Statistics). The University library system includes five libraries on campus and the new Library Collections Annex, a high-density storage facility located about four miles from campus. The John Carter Brown Library is an independent research library also on campus. Josiah, the Brown University Library online catalog, provides access to information about holdings in all the libraries at Brown. Expenditures for acquisitions in 2004-5 totaled over $8 million. The library has licenses for 315 databases and approximately 17,000 full-text electronic journals. More information about the library’s collections and services is available at www.brown.edu/library/.

John D. Rockefeller Jr. Library
The Rockefeller Library, otherwise known as “the Rock,” houses the collections in the social sciences and humanities. The first floor includes the Gateway Services Desk where users can check out books for circulation, seek reference assistance, or inquire about library services and policies. The main collection of newspapers is housed in the Periodicals Reading Room on the first floor. The entire building allows for wireless connections to the Brown network and the Internet. Computer clusters are available on Levels 1 and 2. The Alfred and Laura Hecker Center for Library Technology, a state-of-the-art classroom for library instruction, is located on Level 1. Josiah, the library's online catalog, can be searched from workstations located throughout all the libraries as well as from any device with access to the Internet. Books and bound periodicals are shelved together in open stacks arranged by Library of Congress call numbers. East Asian material, located on level 3, includes the Gardner Collection which consists of mostly historical Chinese material from the Ch‘ing Dynasty (1644–1912).

Sciences Library
The Sciences Library, a 14-story high-rise building, contains the library’s resources in the physical, biological, and medical sciences. Library services are offered from Level A (one floor below the lobby level) in the Susan P. and Richard A. Friedman Study Center (to open January 2007). The Friedman Study Center will feature individual and group study areas, computer clusters, and common areas designed to meet students’ needs for academic and
gathering spaces. A café will be located in the lobby of the Sciences Library. Additional computer clusters and study spaces are available on the Mezzanine level. Books and bound periodicals are shelved together by Library of Congress call numbers on the upper floors of the Sciences Library. There is an extensive map collection including U.S. Geological Survey depository maps on Level 8. Media Services, located on Level 14, provides assistance to the Brown community in the use of instructional technology and houses a collection of equipment which can be used for screening or editing videos, films, and other media. Media equipment can be utilized in the Sciences Library or delivered to offices and classrooms for instructional use. The Eleanor H. Gimon Multi-Media Lab, located on Level 12, is open for use of faculty to develop digital and multimedia materials and other projects.

John Hay Library

The John Hay Library is the location for most of the University’s rare books, manuscripts, special collections and archives. Among the notable materials in “the Hay” are the renowned Harris Collection of American Poetry and Plays, the Sheet Music Collection, the McLellan Lincoln Collection, the Anne S. K. Brown Military Collection, the Lownes History of Science Collection, the papers and works of H. P. Lovecraft, the Smith Collection of books on Magic, and the Annmary Brown Collection of incunabula. Among the more recently acquired collections are the Hall-Hoag Collection of Extremist and Dissenting Literature, the Katzoff Collection of Gay and Lesbian Literature, the Poulin and Ciaraldi Collections of Comic Books and Illustrated Novels, the Miller Collection on Alcoholism and Alcoholics Anonymous, the Laughlin Collection of Modern American Poetry, and the Leab Collection on George Orwell. Exhibitions of materials from the collections are mounted year-round. The University archives, dating from 1763, contain copies of the official publications of the University and the papers of many of its departments, officers, and affiliated groups. All materials are paged at the reader services desk for use in the reading room, which is also available for general study. Materials in the library do not circulate outside the building.

Virginia Baldwin Orwig Music Library

The Orwig Music Library houses the general collections of music materials, including books, periodicals, scores, and sound recordings. The study space is particularly convenient for students living in the East campus area. A listening facility for sound recordings, audio cassettes, and compact discs is also available; the recordings do not circulate. Digital audio files may be placed on reserve using EARS (Electronic Audio Reserve System), a system that streams required listening assignments to students registered in Brown University classes; see http://dl.lib.brown.edu/audioreserve/ for more information.

Art Slide Library

Located on the 4th floor of the List Art Center for the convenience of its most frequent users, the Art Slide Library acquires slides, photographs, printed reproductions, microfiche, reference books, and electronic resources to support the general needs of the Brown University community for visual materials pertaining to art and art-related subjects, including architecture and archaeology. The collections consist of approximately 300,000 slides, 39,000 photographs, and 10,000 microfiche, as well as a growing collection of digital images. Anyone affiliated with the University is welcome to use items from the collections for teaching on campus, student presentations, research, or related educational
activities. The staff of the Art Slide Library is available to answer humanities reference questions and to provide training in the use of the digital image collections.

John Carter Brown Library

The John Carter Brown Library is a separately administered and independently funded library, operating under its own policies and procedures. In the field of Americana, it is one of the outstanding libraries of the world. Among the some 50,000 volumes printed before 1825 are numerous books and pamphlets describing the growth of the European colonies in the New World and the impact of the discovery and exploration of the New World upon Europe. The library also has an extensive collection of maps dating from 1477 to the mid-19th century. While the resources of the John Carter Brown Library are available to anyone who needs to use them, the library is designed to serve those engaged in advanced scholarly research. Use of the reading room is restricted to those making use of the collections. The John Carter Brown is a closed stack library, and all materials must be paged by the staff. However, the library regularly mounts exhibitions open to the general public.

Library Services

Access to Library Buildings

The primary goal of the libraries at Brown University is to support the instructional and research needs of the Brown academic community. Currently, the libraries are open over 110 hours per week during the academic year with additional hours available during reading and exam periods. A Brown University identification card or other proof of Brown affiliation is necessary to gain access to the Rockefeller and Sciences libraries. Following is a brief listing and description of some of the library services. More complete information and assistance are available at www.brown.edu/library or from staff at any of the service points throughout the libraries.

Locating and Using Library Materials

Josiah, the Brown University Library online catalog, can be searched from workstations located throughout all library buildings or from any device with access to the Internet: library.brown.edu. The book stacks in Rockefeller, Sciences, and Orwig libraries are open and allow users direct access to the collections for browsing purposes. Details about loan periods are available on the library’s web page. Materials at the John Hay Library must be retrieved by staff from the closed stacks and used within the library; please inquire at the Hay Reader Services Desk for more information.

Library staff provide a variety of general and specialized services to assist students, faculty, and staff members of the Brown community. Library staff promote academic success by advising students and faculty on how to use a wide range of information resources available though the library. Subject specialists are available to consult on research topics, instruct in the use of library resources and tools, evaluate sources of information, and help users navigate the research process.

An increasing portion of the library’s collections is available digitally through licensed or networked resources. The library currently has licenses to 315 databases and approximately 17,000 full-text online journals. Detailed lists of electronic titles are available through Josiah and on the library web site.
Access to Other Libraries

Beyond the immediate collections available on campus, Brown students and faculty have direct access to more than 70 million volumes through special borrowing agreements with over 40 partner libraries. Titles from these libraries — including Columbia, Cornell, Dartmouth, University of Pennsylvania, Princeton, Yale, libraries of the Boston Library Consortium, and the other academic libraries in Rhode Island — can be searched and requested using the library's web site for expedited delivery to one of the Brown campus libraries (see [http://www.brown.edu/Facilities/University_Library/services/otherlibs.html](http://www.brown.edu/Facilities/University_Library/services/otherlibs.html) for details). In addition, Brown has reciprocal agreements for on-site access to a number of libraries in the region and throughout the nation. More information about these and other options for obtaining materials from other libraries is available from the library's web site or from staff at any of the service points throughout the libraries.

Center for Digital Initiatives

The Center for Digital Initiatives (CDI) coordinates the library’s efforts in building its digital collections. CDI focuses on producing digital materials for use in scholarship and teaching efforts at Brown; digitizing “signature collections” from Brown’s world renowned special collections; developing databases, programs, and applications to enhance access to and use of these materials; and providing consultative services for library and academic units undertaking digital projects. A growing collection of digitized materials, faculty projects, databases, search tools, and finding guides is available at the library’s web site: [dl.lib.brown.edu/repository/collections.php](http://dl.lib.brown.edu/repository/collections.php).

Media Services

Media Services provides curricular and event support for faculty, staff, and students, including technology and training for over 150 classrooms and lecture halls on campus. Members of the Brown community can reserve equipment online at [dl.lib.brown.edu/mso/](http://dl.lib.brown.edu/mso/). Media Services also offers a variety of loaner equipment for recording video and audio in digital and analog formats.

Services for Users with Disabilities

The library works closely with the University's Disability Support Services to accommodate Brown students, staff, and faculty with special needs. The main entrances to the Rockefeller and Sciences libraries are wheelchair accessible. The John Hay Library is also accessible via the entrance at the rear of the building, where a phone is available to gain admittance by calling the staff at the Reader Services Desk. The service desks in the Rockefeller, Sciences, and Hay libraries can arrange to have materials retrieved from the stacks and provide other special services as required for users with physical disabilities. The Rockefeller Library currently has a computer workstation with magnification and reading software for the vision impaired, as well as an Optelec enlarger.

Museums

Gardner House

Gardner House, located at 106 George Street, is the University guest house and a historic house museum. It was built in 1806 for Joseph Hale, a mason, and for many years was a
single family residence. Later it was partitioned into a multifamily dwelling, and, during the early 1930s, the owner offered room and board to Brown students.

In 1932 the house was acquired by Brown University. Shortly thereafter, George Warren Gardner, M.D., a member of the Brown Class of 1894, and his wife Jessie Barker Gardner, offered to donate to the University their home on Orchard Avenue and all their antiques. In return, arrangements were made to restore Gardner House and for the Gardners to occupy it for as long as they lived. In accordance with their agreement with the University, upon their deaths, the house became available to Brown as a historic house museum and a guest house. It has been maintained for these purposes since 1948.

In 1979, renovated, Gardner House was reopened as the President’s guest house for distinguished guests of Brown University.

Haffenreffer Museum of Anthropology
The Haffenreffer Museum of Anthropology’s main base is the Mount Hope Grant in Bristol, Rhode Island, eighteen miles from Providence. The Bristol facility and the 375-acre grant were gifts to Brown University in 1955 from the heirs of Rudolf Haffenreffer. In 2005, the Museum opened a 2,000 square foot satellite gallery on campus in Providence, in Manning Hall on the main green. Today the Bristol-based Museum houses global collections numbering 22,000 ethnographic and 84,000 archaeological artifacts; exhibition space of 5,000 square feet; and education programs that reach 10,000 schoolchildren annually. The Museum has close intellectual and historical ties with the Department of Anthropology and provides a base for museum courses and a master’s degree in anthropology-museum studies for students admitted to the PhD program. Undergraduate and graduate students co-curate most exhibitions. The Museum in Bristol is open to the public as follows: September through May, Saturday–Sunday 11–5; June through August, Tuesday-Sunday 11–5. Other hours by appointment only. The Haffenreffer Museum at Manning Hall is open to the public Tuesday-Sunday, 10-4. Contact Shepard Krech III, Professor and Director, or Kevin Smith, Deputy Director, 401-253-8388.

Laboratories

The University provides extensive, modern laboratory facilities designed for undergraduate instruction, graduate instruction, and research. The major laboratory facilities include the following.

Physical Sciences Laboratories

Barus and Holley Building: a seven story building housing both the Division of Engineering and the Department of Physics. In addition to classrooms and faculty offices, the building contains over fifty laboratory rooms. These rooms are equipped with the latest scientific apparatus permitting research in fields such as: picosecond ultrasonics, low-temperature physics and superconductivity, surface physics, colloidal physics, liquid crystal physics, solid-state physics, magnetic properties of solids, nonlinear optics, high-energy and elementary particle physics, laser systems, microwaves, servo-mechanisms, instrumentation, solid state electronics, microelectronics, creep and fatigue of materials, materials preparation, transmission and scanning electron microscopy and electron microprobe analysis, scanning tunneling and atomic force microscopy, x-ray diffraction, soil mechanics, dislocation dynamics, dynamic inelasticity, binocular vision, coal
gasification, speech recognition; robotics, image processing and computer systems, and the CVD (Chemical Vapor Deposition).

*Prince Engineering Laboratory*: A modern laboratory building adjoining the Barus and Holley Building. Apparatus presently installed includes: subsonic wind tunnels; computerized flow-measuring apparatus, a Soil Mechanics Laboratory, two Chemical Engineering Laboratories; and a Materials Engineering instrumental laboratory; an Ion-Implant Facility; a Millimeter Wave Laboratory; a Thin Film Facility; an optical fiber draw facility of the Laboratory for Lightwave Technology; several internal combustion engines, a Mechanical Testing Facility, electronic data acquisition systems; a well-equipped machine shop, and stockroom. A new computer workstation area has been established on the balcony of this building. It offers workstation and PC facilities for undergraduate instruction and projects.

*Chemical Laboratories*: The instructional laboratories and classrooms are housed in MacMillan Hall. The research programs in inorganic, organic, physical, and biochemistry as well as the offices of the Department of Chemistry are housed in the adjacent Geology-Chemistry building. Facilities include a machine shop, a glass working shop, and an electronics shop. The laboratories are equipped with modern instruments for research in chemistry, including NMR, ESR, IR, Raman, UV and mass-spectrometers, X-ray and electron diffraction systems, several state-of-the-art laser facilities, and equipment for ESCA, Auger and photoacoustic spectroscopy. The laboratories contain an extensive array of computational and graphics workstations, linked via networks to departmental minicomputers, to the university’s mainframe, and to remote databases and supercomputing facilities.

*Geo-Chem Building, MacMillan Hall, and Lincoln Field Building*: These buildings house the Department of Geological Sciences. In addition to classrooms and faculty and graduate student offices, the buildings contain laboratory space and research equipment and facilities including an extensive computing network of workstations and minicomputers which are linked via Ethernet to a campus parallel computing facility and to national networks and supercomputing facilities. Software packages are available for hydrological computations. The new MacMillan Undergraduate Science Center houses undergraduate geoscience and environmental science laboratories, office and laboratory space for concentrators, as well as a computer center, well-equipped lecture halls, and a lounge. *Planetary Geoscience* facilities include a sophisticated image processing and analysis facility, the Brown/NASA Reflectance Experiment Laboratory (RELAB), and an extensive collection of photographs, images, and maps from all planetary exploration missions. Brown/NASA Regional Planetary Data Center makes available to researchers data from the U.S. Space Program. *Experimental and analytical labs* include: pollen, micropaleontological, and alkenone paleotemperature laboratories, Elzone particle counter, elemental analyzer and the Environmental Stable Isotopes Laboratory for analysis of $\delta^{15}N$, $\delta^{18}O$, $\delta^D$ and $\delta^{13}C$ in carbonates and organic samples, several multicollector gas and solid-source mass spectrometers, hydrothermal, gas, and piston cylinder apparatus, electron microprobe/scanning microscope, X-ray fluorescence analysis facility (XRF), an X-ray diffraction unit, a computer controlled rotary shear gas apparatus for frictional sliding experiments, modified Griggs-type solid medium deformation apparatus (3) for high and low temperature and pressures as well as various strain rates. A jointly owned ion microprobe and a campus Electron Microscope Facility for SEM and TEM studies are available, as well as Raman spectrometers in other departments. We currently have a radiogenic isotope laboratory and a Thermal Ionization Mass Spectrometer for the analysis of (Rb-Sr, Sm-Nd, U-Pb) in whole
rocks and minerals. We are building a new state-of-the-art clean lab for isotopes analysis. *Field equipment* includes estuarine water sampling equipment (with boats, moorings, CDTs and fluorometers), Leica laser surveying equipment, two ground penetrating radar systems (GPR), portable field spectrometers, gravimeter, field seismic equipment, and equipment for geomagnetic and magnetotelluric measurements.

**Life Sciences Laboratories**

*Arnold Biological Laboratory:* The original laboratory built in 1915 for biology. It now houses the administrative offices of the Division of Biology and Medicine (Program in Biology and Medical School), and the Department of Community Health.

*J. Walter Wilson Laboratory:* A five-story building first occupied in 1962. It houses the Department of Molecular Biology, Cell Biology, and Biochemistry. It includes seminar rooms, cold, warm and dark rooms, glass washing and sterilization facilities, instrument rooms, a machine shop and the Division of Biology and Medicine’s stockroom. The Sol Koffler wing, completed in 1983, houses faculty offices as well as two lecture rooms and a teaching laboratory.

*Medical Research Laboratory:* A four-story structure linking the Metcalf Chemistry Laboratory and the Arnold Biological Laboratory, completed in 1965 and fully renovated in 1996. It houses the Department of Neuroscience and a satellite housing space for the Animal Care Facility.

*Biomedical Center:* A complex of three buildings, completed and dedicated in 1969, to which major additions were made in 1982 and 1989. Two underground floors house the Multidisciplinary Teaching Laboratory, which is the site for laboratory instruction in courses in biology and the basic medical sciences. The facility includes classrooms, laboratories, conference rooms, preparation areas, instrument rooms, and computing facilities. A facility for teaching, demonstrations, and research in human anatomy is also located here, as are the research laboratories for radiation biology. The terrace level, completed in 1982, features a large lecture room for medical classes, several conference rooms, a study lounge for medical students, a mail room, and the research facilities of the Center for Gerontology and Health Care Research. The four-story research tower houses the Departments of Pathology and Laboratory Medicine, Molecular Microbiology and Immunology, and Molecular Pharmacology, Physiology and Biotechnology; a Biosafety Level 3 AIDS facility; an electron microscope facility; and the offices of the International Health Institute. The six story Animal Care Facility, under the direction of the University veterinarian, houses animal colonies for teaching and research purposes.

*Walter Hall:* This building houses portions, including administrative support, laboratory support, and faculty offices for the Department of Ecology and Evolutionary Biology.

*The Brown University Herbarium* is located in Arnold Biological Laboratory. The Herbarium of 100,000 specimens includes a wide representation of vascular plants especially from Rhode Island and New England, but also from North America and Europe. It is listed in the Index Herbariorum, an international listing that facilitates exchange privileges with other institutions.

*Plant Environment Laboratory and Greenhouses:* The greenhouses embrace about 6,000 square feet of growing space for plants involved in research in plant physiology, ecology, and genetics. Three environmentally controlled rooms and the growth chambers in the
associated laboratory permit studies of the environmental controlling factors of light, temperature, and humidity in plant growth and development.

121 South Main Street houses offices for the Center for Statistical Sciences, the Center for Gerontology and Health Care Research, the Institute for Community Health Promotions, and the Center for Addiction Studies.

172 Cushing Street, Lower Level house the Brown University AIDS Program.

Walter S. Hunter Laboratory houses most facilities for research and teaching in psychology. Psychology is the branch of the life sciences that studies how we perceive, learn about, and remember the world around us, how we develop physically and socially, and how we interact with our fellow humans. Modern psychology studies both human and animal behavior, employs both observational and experimental methods, and incorporates many levels of analysis—including biological and neural, evolutionary, cognitive, and social.

Harriet W. Sheridan Center for Teaching and Learning

The Harriet W. Sheridan Center for Teaching and Learning was founded in 1987 to assist faculty and graduate teaching assistants to improve the quality of undergraduate and graduate instruction within the University. Today, the center supports members of the Brown teaching community in building reflective teaching practices which ensure that a diverse student body has the best possible environment for learning. The Brown curriculum promotes the mutually productive relationship between teaching and research among faculty, graduate students, and undergraduate students. The center plays a crucial role in facilitating the ongoing development of that relationship. The Sheridan Center further seeks to help prepare graduate teaching assistants for productive professional teaching careers after they leave Brown.

To those ends, the Sheridan Center offers a variety of programs, services, and publications. Programs include broad-scale teaching forums, the Sheridan Teaching Seminar lecture series and three Sheridan Center Teaching Certificate programs (I: Building a Reflective Teaching Practice, II: Classroom Tools and III: Professional Development Seminar). Consulting Services provide faculty and graduate students with individual feedback on classroom performance, course revision, conference presentation skills, and grant requirements. Through the agency of faculty and graduate student liaisons to academic departments, the center assists with the design and implementation of seminars on discipline-specific teaching and learning. The center also maintains a resource library of books, articles, journals and videotapes on teaching and learning issues for members of the University teaching community.

The Sheridan Center publications include The Teaching Exchange, Handbooks, and a web site. The Teaching Exchange is a bi-annual forum for the exchange of ideas about teaching within the Brown community. Handbooks include Teaching at Brown, Constructing a Syllabus, The Teaching Portfolio, Teaching and Persuasive Communication, and Teaching to Cognitive Diversity. The videotape Effective Teaching for Dyslexic/All College Students is distributed nationally to facilitate understanding of learning diversity in the classroom. The center’s web site offers 24/7 access to information.
about center activities, on-line editions of all publications, and two unique, interactive pedagogical workshops. The Sheridan Center also facilitates the exchange of ideas on teaching and learning at Brown between faculty and other individuals and agencies on campus through The Brown Teaching Collaborative (BTC).

The Sheridan Center is located at 96 Waterman St., near Thayer St.

For information about the center and its resources for teaching at Brown, please contact:
Director: Rebecca S. More, Ph.D. (History).
Associate Director: Laura E. Hess, Ph. D. (East Asian Studies).
Box 1912; (401) 863-1219; Sheridan_Center@Brown.edu

http://www.brown.edu/sheridan_center/

**Computing Services**

Computing and Information Services (CIS) is the centralized support organization at Brown University for information technology. CIS is responsible for maintaining distributed and centralized computing service on campus, supporting academic and administrative departments in the effective and efficient use of these technologies, and promoting an understanding of evolving technologies. It provides a broad range of computing support services based on a diverse set of hardware, including a mainframe, mid-range servers and desktop computers, all linked through a campus backbone and departmental networks. The department is also responsible for the communications infrastructure of the University, providing voice, data and video services.

CIS directly supports the entire Brown community by providing customer-focused services for personal desktop hardware and applications. The Help Desk offers technical support to students, faculty and staff both at its offices on the first floor of the CIT building and in dorms and offices through its Service on Site (SOS) program. The community can also download a comprehensive suite of desktop applications from CIS's web site (http://www.brown.edu/cis), a good starting point for an introduction to available computing resources.

One of CIS's most mission-critical roles is providing the technological services necessary to support Brown's research and instruction. Faculty can benefit from technology tools such as the course management system (WebCT) and the Personal Response System, seminars and training, and one-on-one consultations offered by the Instructional Technology Group, which also collaborates with the Sheridan Center for Teaching and Learning and the University Library. The Faculty Grants Program allows faculty to pursue specialized projects in academic research, teaching, and scholarly communication using advanced information technology. The program is overseen by the Scholarly Technology Group. The Student Technology Assistants (STA) also offer assistance to Brown University faculty and graduate TAs in the creation of digital course material.

Staff can take advantage of hundreds of classes each year on productivity and web publishing software offered by Computer Education. Students can register for evening classes on technology they may encounter in both their academic and professional careers.

Much of CIS's crucial work occurs behind the scenes. This includes the management of both the hardware and software infrastructure for campus-wide services such as electronic mail, high speed Internet connectivity, BOCA (Brown Online Course Announcement), applications distribution, the on-line purchasing system, shared file services, and instructional services. These reside on highly reliable central Unix, Novell, NT, and mainframe business and information systems. This distributed computing environment is connected by a campus-wide network of in-building and inter-building
wiring over which voice, data and video services are transmitted in the more than 230 buildings housing Brown employees and students.

The transmission of all this critical data occurs within a firewalled environment overseen by CIS's IT Security group. They are charged with the development and delivery of security standards, policies, best practices, and solutions to ensure information security across the University.

Other computing resources includes the public clusters located in the CIT building and the Rockefeller and Science libraries. The clusters are staffed by student consultants and offer both Macintosh and Windows computers as well as scanners, printers and data storage devices. Internet kiosks are also available, providing walk-up service 24 hours a day at convenient campus sites to help locate a person or resource, or quickly check email when on the run. In the summer of 2006, CIS began a project to provide wireless access to the network across campus including all of the residence halls.

CIS is housed in several buildings. Support services such as the Help Desk and Service & Repair, are located in the CIT building, on the corner of Brook and Waterman Streets. More information is available at http://www.brown.edu/cis.

Summer and Continuing Studies

Summer and Continuing Studies (SCS) is responsible for the Summer Session which provides credit–bearing courses on campus and at international sites, as well as a large array of non–credit summer courses for pre–college students and Continuing Studies courses offered year–round for adult learners in the Southern New England Region. The division was created in 2003 through a merger of the Special Studies Office and the Office of Summer Studies.

The Special Students program provides non–degree adult students the opportunity to apply and register for University courses. The Pfizer program is a joint offering of SCS and the Medical School, providing graduate level credit courses that may lead to the AM degree in Biology for employees at the Pfizer plant in Groton, Connecticut. International students also come to the Brown campus to study English and to take many other courses through the multiple programs offered by this office.

In 2006 the former Brown Learning Community was replaced with the Continuing Studies program, encompassing a broad array of non–credit courses for adult learners. College and pre–college courses on campus and in international and other sites away from campus (as close as the Haffenreffer Estate and as far as Hawaii) are developed for summer, winter break and year–round offering.

In 2005 the Conference Service area also became a part of the office, developing new service models to assist faculty and departments in year–round conference and short program offerings and adding responsibility for all summer campus housing and classroom space reservation through SCS. Summer and Continuing Studies now provides opportunities for faculty to develop innovative curricular offerings and manages the registration, student life and curriculum support services that make possible access to Brown’s academic expertise for over 3,000 non–degree students each year. For more information please visit: http://www.brown.edu/Administration/Continuing_Studies/ or call (401) 863-7900.
Conference Services

The Conference Service Office was merged into Summer and Continuing Studies in late 2004. Adopting the concept of a twelve-month business model, this area aims to provide high quality, cost-effective event-planning services for the Brown community and outside groups. Restructured in Winter ’05 to become a more service-oriented, “one-stop-shop”, Conference Services strives to provide logistical coordination for all types of meetings, programs, and events from academic symposia and departmental receptions to corporate retreats, association meetings, and summer sports camps. Conference Services is dedicated to meeting the individual needs of each conference group while maintaining the high level of quality expected of events at Brown University. This office enables faculty and staff on campus, and agencies off campus, to work with a single office which then interacts with all campus service offices to arrange for the booking of campus meeting space, facilities services, catering, residential arrangements, media services and all other meeting and event components.

Brown University Research Foundation

For information please visit one of the following websites: http://research.brown.edu/btp/index.php or http://research.brown.edu/index.php.

Arrangements with Other Institutions

American Academy in Rome

Free tuition in the School of Classical Studies in the Academy is available to qualified graduates, and occasionally to qualified undergraduates, of Brown University who are admitted to the Academy. For further information consult the Chair of the Department of Classics or communicate directly with the Executive Secretary, American Academy in Rome, 7 East 60th Street, New York, New York 10022.

American School of Classical Studies At Athens

The establishment at the American School of Classical Studies of a fund of $10,000, known as “The Albert Harkness Fund for the Benefit of Brown University,” secures the privilege of reduced tuition in the School for all adequately prepared graduates and, in exceptional cases, undergraduates of the University. Information concerning the School may be obtained from the Chair of the Department of Classics.

With the extensive Gennadius collection of works on Greek art, literature, and history, including Byzantine and more recent history of the Near East, the American School also offers exceptional advantages to students of Byzantine history, archaeology, and literature.
During the summer the School also operates a six-week archaeological study tour of Athens and other sites of interest in Greece. This session is open to advanced undergraduate and graduate students.

**American Schools of Oriental Research**

As a charter corporate member of the American Schools of Oriental Research, Brown participates in the sponsorship of archaeologically related study and research in ASOR programs in Jerusalem, Amman, and Nicosia. The programs of the ASOR institutes are centered in Ancient Near Eastern and Mediterranean studies. Information concerning ASOR may be obtained from the Department of Religious Studies and the Program in Judaic Studies.

**Exchange Scholar Program**

For advanced graduate students. See page 192.

**Intercollegiate Center for Classical Studies**

Brown University is a member of the Intercollegiate Center for Classical Studies in Rome. Qualified undergraduates may apply to study during their junior year at the center, which is maintained and staffed by classical scholars from cooperating institutions. For further information consult the Chair of the Department of Classics.

**Rhode Island School of Design**

As a result of a cooperative arrangement, students of Brown University may elect certain courses on a space-available basis at the Rhode Island School of Design (RISD), up to a total of four courses. Students register for such work under Brown course numbers. Additional information regarding policies and procedures for cross-registration at RISD may be found on the Brown registrar’s Web site: http://www.brown.edu/Administration/Registrar/risd.html.

**The Brown University-Tougaloo College Cooperative Program**

Tougaloo College is a historically African-American, liberal arts institution in Tougaloo, Mississippi, with about 1000 students. In 1963 the Tougaloo Board of Trustees invited Brown University to discuss ways and means by which Tougaloo might broaden and supplement its academic program and help its students take advantage of additional career opportunities. Initial contacts between the College and the University proved encouraging and resulted, during the 1963–64 academic year, in the inauguration of a Cooperative Program.

Evidence of strong interest in the cooperative effort comes from students, faculty, administrators, and trustees of both institutions. Members of the faculties exchange visits for purposes of consultation and teaching. Undergraduates often spend summers or a semester on the Tougaloo or Brown campus. Trustee committees work together on policy studies and development opportunities. Members of the administrations share information and offer consultative services. Currently, the joint academic program is between the Tougaloo Pre-Health Program and the Brown Medical Program.
Students, faculty, and others having an interest in the Cooperative Program and wishing additional information about it should address inquiries to: Office of the Provost, Box 1862, Brown University, Providence, RI 02912.

Urban Education Semester

The Urban Education Semester is an academic program offering an interdisciplinary introduction to the theory and practice of urban education. Participants from the nine Venture colleges (Bates, Brown, Franklin & Marshall, Holy Cross, Sarah Lawrence, Swarthmore, Syracuse, Vassar, and Wesleyan) work alongside outstanding teachers in New York City public school classrooms three days per week, and enroll in a full course load at the Bank Street College of Education. The Urban Education Semester is designed to help participants discover that high quality, effective education is possible and happening in inner-city public schools. For that reason, the program highlights schools that are widely recognized as successfully meeting the challenge of educating children in urban settings. The Urban Education Semester places particular emphasis on strategies for effective education in multicultural settings. Participants meet regularly with program advisors—individually and in weekly conference groups—for ongoing analysis and integration of theory and practice, and reflection on their experiences. The program is open to rising juniors, first semester seniors, and outstanding sophomores of all academic concentrations and carries a full semester of credit.

For additional information please visit: http://www.theventureconsortium.org/.
The Career Development Center provides many resources to enhance life, career and employment decision-making for undergraduates, graduate students, and alumni. For undergraduates, career exploration is encouraged from the first year on, so that students can take maximum advantage of opportunities for applied or experiential learning, investigation of career fields, and connections with faculty, alumni, and employers. The office has print and electronic listings of a vast number of internship and career opportunities. Alumni have password-protected access to professional job listings through the Career Development Center home page on the internet. Students and alumni may also register to use the dossier service for applications to professional and graduate schools for academic employment.

Individual consultations take place both formally and informally with professional career counselors and peer career counselors. Students may seek assistance on any career-related issue from the impact of concentration choice on careers to how to apply for graduate school or search for a position in a very narrow field. Workshops are held throughout the academic year on subjects such as writing resumes or cover letters, interviewing, finding an internship, or negotiating a job offer. Other programs, involving alumni presenters, including undergraduate and graduate career conferences, focus on specific careers. Information sessions presented by organizations involved in on-campus recruiting provide details on specific companies. Career fairs held in the fall and spring provide students with additional opportunities to research employers and apply for specific positions. Students are encouraged to explore career fields through informational interviews with alumni. ACCess, Brown’s on-line alumni network is coordinated by the office of Alumni Relations.

The Career Library houses career planning literature, current occupational information, general job search resources. Organizational directories and periodicals represent areas of career interest. Tip sheets are available on a variety of topics. The Career Library contains print resources and internet services that have been researched by professional staff. Trained Peer Career Counselors also assist students in using the resources and with resume and cover letter critiques.

The Employer Relations Office at the Career Development Center establishes and maintains recruiting relationships with over 600 organizations based on student interest. Among the organizations which participate in the on-campus recruiting program are investment banks, consulting companies, and technical firms, as well as major nonprofit organizations and governmental organizations. Employers in a wide variety of fields actively solicit Brown graduates through an online recruiting system, our Brown to Brown list serve, or through connections with the Career Development Center.

A comprehensive, dynamic website (www.careerdevelopment.brown.edu) gives students and alumni immediate access to resources, tip sheets, company research, and job opportunities. It also highlights upcoming events and deadlines, and a schedule of close to 100 annual career programs taking place at Brown.
Office of the Chaplains and Religious Life (OCRL)

The Office of the Chaplains and Religious Life (OCRL) strives to insure that a diversity of beliefs have voice and vitality throughout the Brown University community. The regular work of the chaplains involves caring for the Brown family of faculty, staff, students, and alumni/ae; encouraging the multicultural richness of the University; contributing to the intellectual enterprise on campus; and advocating for matters of conscience in all facets of the University’s life and beyond. Worship, prayer, counsel, advisement, instruction, hospitality, collaboration, and programming are the primary modes of this work.

All members and friends of the Brown community are welcome to attend on–campus gatherings of prayer, meditation, and corporate worship. Manning Chapel, Brown Hillel, and the Brown Muslim Student Center are established centers for religious services at Brown. Regular Manning Chapel services include A Call to Worship (Protestant), the Roman Catholic Mass, Imani Jubilee (a contemporary Christian worship), Zen meditation, and a Taizé service. Additionally, frequent meetings of student fellowship organizations and spirituality groups occur throughout the campus.

Living, studying, and working within a rigorous academic community prompt and require responses to a host of profound questions. Thus, the nurture of the life of soul and spirit remains at the heart of OCRL. The chaplain of the University and associate chaplains are always available for pastoral care and advisement to any member of the community. Beyond individual counsel, the chaplaincy offers programming on critical spiritual themes or concerns, including a bereavement group that meets weekly. The chaplains are also regularly involved with Brown's instructional life through formal courses and public events.

OCRL promotes communication and understanding through numerous interfaith programs, including the Interfaith “Thursday” Supper, a 40–year old weekly dinner gathering at the chaplain’s home; the Multifaith Council, which is comprised of student leaders representing the campus’ religious and faith communities; and Interfaith House, a residential space currently housing 35 undergraduates whose shared purpose is to foster community, creative discussion, and interreligious dialogue.

The Reverend Janet Cooper Nelson is the chaplain of the University and a member of the faculty; she convenes a team of associate chaplains, with specialized responsibilities for the care of Brown’s Jewish, Protestant, Roman Catholic/Orthodox Christian, and Muslim traditions. A fifth associate chaplain is also a senior fellow at the Swearer Center for Public Service, strengthening the collaboration of these areas and student reflection. OCRL works with all registered student religious organizations and affiliates at Brown, which include Brown Hillel, the Roman Catholic Community, the Orthodox Christian Student Association, the Muslim Student Association, the Ba’hai Community, Brown Christian Fellowship (a ministry of InterVarsity), Brown Quakers, the Brown University Unitarian Group, the Christian Science Organization, the Church of Latter Day Saints, College Hill for Christ, the Episcopal Community, the Hindu Prayer Group, the Reformed University Fellowship, and Zen Meditation.

For more information about OCRL, and a full listing of religious services, visit www.brown.edu/ocrl. To make an appointment with the chaplains, call 401-863-2344.
Faunce House Student Center

Dedicated in 1904 as Rockefeller Hall then renamed in memory of President William H. P. Faunce after a significant expansion in 1931, Faunce House serves as the primary center of student activity and community life at Brown. Faunce House is home to many student and University services, including:

- Student Activities Office
- Office of the Chaplains and Religious Life
- LGBTQ Resource Center
- Student Organization offices, including the Undergraduate Council of Students
- University Mail Room and United States Post Office
- Blue Room Café and the Campus Market
- Meeting, lounge, and event spaces

More information is available via the Student Activities Office website: http://www.brown.edu/Administration/Student_Activities/

Dining Services

Undergraduate, graduate, and medical students receive a dining guide during the summer to assist in board contract selection for the following academic year. All inquiries should be directed to the office of the Director of Dining Services, Sharpe Refectory, Box 1936, Providence, R. I. 02912. Phone: (401) 863-3876.

Office of International Student and Scholar Services

The Office of International Student and Scholar Services (OISSS) is located at 68 Brown Street in Partridge Hall.

OISSS plays an active role in advising and guiding international students and scholars and their families through the transition to living in the United States, paying particular attention to the intercultural aspects of the transition. The office serves as primary resource for immigration and visa related matters, as well as personal and academic concerns.

OISSS handles all immigration documentation for nonimmigrant students, administers the Department of State Exchange Visitor Program at Brown and affiliated hospitals, and processes employment based nonimmigrant visa petitions for faculty and academic staff in conjunction with the Office of Faculty Affairs.

For further information, please visit the OISSS website at www.brown.edu/oisss or call (401) 863-2427.
Health Services

The University has a strong commitment to programs designed to achieve and maintain an optimum level of health in the Brown Community. Brown University Health Services provides primary care, gyn care, dermatology, and nutrition services for students. Health promotion programs and information are available on a variety of issues—including sexuality, eating concerns, alcohol, and other drugs. Students requiring services of a more specialized nature or major medical care are referred to an appropriate specialist in the community. Health Services is located in Andrews House at 13 Brown Street (corner of Brown and Charlesfield Streets) where outpatient as well as inpatient care facilities are available for all students. Health Services is open 24 hours a day when the University is officially in session. When the University is in recess (Thanksgiving, Winter, Spring and Summer Recesses), it operates as an outpatient facility from 8:00 AM to 3:30 PM, Monday through Friday. Since the Health Fee is applicable only to the academic year, there is a proportionate additional fee during the summer for those wishing to use Health Services. Emergency Medical Services are available 24 hours a day by calling x34111. Please refer to the Health Services web site at http://www.brown.edu/health for additional information on hours and services.

Health Insurance is not included in the Health Services fee. Students who are not covered under a parental or private plan are required to purchase the insurance offered by the University.

University Health Services is accredited by the Joint Commission on Accreditation of Health Care Organizations.

Physical Education

A diverse program in instructional physical education is available to all students at Brown University—undergraduate and graduate. This program is voluntary and noncredit. Most activities are coeducational and are available on a seasonal basis. Schedules may be obtained from the Director of Physical Education. The program provides periods of sequential instruction so each student may progress to the highest level of skill. The purpose of the program is to provide recreational skills for worthy use of leisure time and rigorous activity for physical fitness and efficiency.

Intramurals

Both men and women have the opportunity for a competitive experience on an informal basis through tournament and league play in a variety of activities. Brown’s intramural program is designed to allow and encourage the campus community to participate in organized athletic activity. All students (undergraduate and graduate) enrolled in the University and all university faculty and staff are eligible to enjoy intramural activity in the sports of flag football, volleyball, tennis, basketball, soccer, ice hockey, softball, ultimate frisbee, and squash among others. More information can be found at www.brown.edu/im.

Recreational Programs

Athletic facilities are available at specified times for recreational use by all members of the University Community. These include the Pizzitola Sports Center (indoor tennis), Olney–Margolis Indoor Athletic Center, Meehan Skating Rink, Smith Swim Center, weight
rooms, tennis and squash courts, and numerous fields. Group reservations may be made for some of these.

**Intercollegiate Athletics**

An intensive intercollegiate athletic program at the NCAA Division I level is available to men and women undergraduate students.

Brown women participate in varsity competition in the following sports: crew, field hockey, soccer, tennis, basketball, ice hockey, squash, swimming, skiing, golf, fencing, equestrian, lacrosse, softball, cross-country, track, gymnastics, volleyball, and water polo.

Brown men and women compete with the Ivy Group and other colleges and universities. Competition occurs in regional and national tournaments.

Brown men compete on the varsity and freshman level in crew. Varsity opportunities are offered in basketball, track, cross-country, hockey, soccer, lacrosse, tennis, baseball, swimming, wrestling, football, fencing, water polo, squash, and golf.

Club sports: rugby (men), skiing (men), sailing (men and women), Frisbee (men and women), and volleyball (men).

The colleges and universities with which Brown is associated in Ivy League intercollegiate athletic agreements are Columbia, Cornell, Dartmouth, Harvard, Pennsylvania, Princeton, and Yale.

For additional information, please visit: [http://www.brown.edu/Athletics/Recsports/](http://www.brown.edu/Athletics/Recsports/).

**Howard R. Swearer Center for Public Service**

The mission of the Howard R. Swearer Center for Public Service is to connect the capacities of the university and community to address inequalities in our society and communities; create, share, and apply knowledge for the public good; and educate and prepare students for lives of effective action.

As part of the office of the Dean of the College, the Center works to advance Brown's curricular philosophy of encouraging students to gain multi-disciplinary knowledge, practice habits of self-reflection and empathy, and examine and articulate their moral convictions. The Center was established in 1986-87 and later named after Brown’s 15th president.

The center provides a number of resources for students and faculty:

- Undergraduate academic advising and ongoing student support and programming.
- Over 40 community based programs led by student coordinators, which engage hundreds of Brown student volunteers in the greater Providence community on issues such as adult education, college preparation, health, and housing and homelessness.
- Royce, Starr, Swearer, and Liman fellowships for undergraduates to pursue research and community work.
- Guidance and grants to support faculty in the development of courses and research related to community and social issues.
- Off campus work-study opportunities to allow students to fulfill the work-study requirements through work at community agencies.
- Forums and programs on social issues.
• A resource library and website that include numerous resources for students and faculty working on community and societal issues.

More information on the Swearer Center can be found at http://swearercenter.brown.edu. The Center is located at 25 George Street, Box 1974, 401/863-2338.

Psychological Services

Staff members of the Psychological Services see undergraduate, graduate, and medical students when personal distress levels reach the point beyond which they can be expected to be managed alone. Students may be self-referred or referred by others. Clinical services include assessment, crisis intervention, short-term psychotherapy, consultation, medication monitoring and referral. The department operates from a philosophy that students’ emotional problems are often part of the difficulties of normal development, and therefore offers a large number of programs that encourage constructive approaches to living.

The office is located on the second floor of Rhode Island Hall. Appointments are available weekdays, 8:30 to 5:00, when the University is in session. Students can also be seen on an emergency basis, and staff members are on call at night and during weekends. More information is available on-line at http://www.brown.edu/Student_Services/Psychological_Services/.

The Curricular Resource and Academic Support Centers

The Curricular Resource Center (CRC) is an integral part of the support system for the Brown Curriculum. In this capacity, its goal is to help students explore Brown’s unique educational opportunities of living and learning. The CRC encourages and supports Brown’s curricular options and self-directed learning possibilities. It is a place where students can gather information and share ideas with the aim of taking responsibility for their own education. The Center acts as a clearinghouse of information on and support for curricular options, leave-taking, and learning communities.

The Resource Center was established in 1976 by a group of undergraduates interested in student initiated learning activities and engagement in all types of learning. Under the auspices of the Dean of the College, the CRC is student staffed with well trained peer advisors with program specific expertise.

For students who wish to pursue a field of study not offered in the standard curriculum, the CRC houses extensive resources on creating and designing your own courses (GISPs-Group Independent Study Projects, ISPs-Independent Study Projects, AIs-Academic Internships). The CRC also provides resources and support for students determined to craft their own original concentration of study called the Independent Concentration program. The program coordinators for promoting and facilitating these independent research programs are available to advise interested students throughout the week and at scheduled information sessions throughout the semesters.

The Curricular Resource Center is the campus resource point for all types of leave-taking opportunities. Many students at Brown University elect to take a semester or semesters off. The CRC has advisors with whom potential leave-takers should discuss their
goals, priorities and desired experiences. The Center also has a library full of information on not-for-credit programs, idea generation and background of the experiences of past Brown leave takers. As a member of the Venture Consortium, Brown University students have access to the services offered by College Venture through the CRC. The Consortium, which includes other liberal arts schools such as Bates, Vassar, Swarthmore, Wesleyan, Holy Cross, Syracuse, Franklin and Marshall, and Sarah Lawrence, is dedicated to providing reflective, innovative and relevant programming for undergraduates interested in developing their sense of social responsibility. The CRC is available to assist and facilitate leave-takers as they consider the many different options and possibilities for their time away.

In addition to not-for-credit programming and as a supplement or alternative to studying abroad, students can elect to study at another institution in the United States - at Brown we call it, Study Away in the U.S.A. Students can study at another college or university of their choice and in most cases, the credits will transfer back to Brown provided they are earned at an accredited four year institution and the course content is liberal arts oriented. The Venture Consortium offers a for-credit program, the Urban Education Semester (UES), designed exclusively for Venture school undergraduates. Students participating in UES take graduate level courses at Bank Street College in New York City and assistant teach in NYC public schools part-time. The program is designed to be interdisciplinary and allow those students interested in education, policy, urban issues, etc., a chance to develop those interests in meaningful and productive ways.

The Curricular Resource Center works closely with the Dean of the College offices to provide space for academic support services as well. Currently there is an Academic Support Center located on the left side of Andrews Hall terrace, open Sunday through Thursday, 4 to 11 pm. The University provides free tutoring services and workshops in developing better and more effective study skills. For more information on these programs and how to access them please visit their webpages:

- Tutoring Program - http://www.brown.edu/Student_Services/Resource_Center/tutoring/main.php
- Study Skills Corps - http://www.brown.edu/Student_Services/Resource_Center/ssc/main.php

The CRC is located in Rhode Island Hall, 116, and is open Monday through Friday 10 am to 5 pm. For more information call (401) 863-3013 or visit http://www.brown.edu/Student_Services/Resource_Center/home/index.php.

Sarah Doyle Women’s Center

The Sarah Doyle Women’s Center stands out among college women’s centers in its concern for integrating academic, social, cultural, and political interests. It provides a variety of programs and services for all people interested in the changing roles of women and men in our society. Educational programs and speakers address topics ranging from new developments in women’s studies to political and social issues that arise on college campuses. Other activities include roundtable discussions, study groups, concerts, poetry readings, support groups and other social activities. The center maintains a small library, extensive resource and referral information, an art gallery exhibiting the work of regional artists, a darkroom, and meeting space for groups and individuals. All are welcome.
For additional information please visit the Center’s webpage at: http://www.brown.edu/Departments/Sarah_Doyle_Center/.

**Student Residences**

**Undergraduate Residential Living**

All undergraduate students are required to live in university residence halls for a minimum of six semesters with the exception of resumed education program students, married students, and local students living with their parents. Undergraduates who will be starting their seventh semester may apply for permission to live off campus for their senior year.

Residence options include several dormitory buildings, seven residential fraternities, and two residential sororities, and a variety of program houses. Room assignments are made by Brown University without regard to race, creed, color, sexual orientation, or national origin.

Each resident is provided with a bed, including mattress, a chest of drawers, a desk, a book shelf, and a desk chair. The apartments include a kitchen and living room furniture. Blankets, desk lamps, and curtains are not provided by the University. Each student is responsible for damages to the room and furnishings beyond ordinary wear. Sub-rental of rooms is not permitted.

The University cannot assume responsibility for personal property of students. The University does not provide for the storage of personal belongings during the academic year or the summer recess. Adequate insurance coverage is advised for each individual. Many parents have personal property insurance that may be extended to cover losses experienced by students attending the University.

Information relative to room contracts and charges is located in the Financial Section of the Catalogue.

**The Graduate School — Student Residences**

The majority of Brown’s graduate students reside off–campus in apartments in the Greater Providence area. Brown University’s Auxiliary Housing Office manages apartment–style rental units which house approximately 100 graduate students. Miller Hall is designated as a graduate student residence hall and accommodates 55 graduate students. Housing assignments are made by Brown University without regard to race, creed, color, sexual orientation, or national origin.

In University residence halls, each student is responsible for damage to his or her room and furnishings beyond ordinary wear. Sub-rental of rooms is not permitted.

Whether domiciled in an apartment and/or residence hall, each student should consider the purchase of insurance to cover his or her personal property as the University cannot assume responsibility for personal property of its students. Many parents have personal property insurance that may be extended to cover losses experienced by students in the University–owned properties.

Married student housing on–campus is not provided by the Office of Residential Life.

The Office of Auxiliary Housing compiles lists of housing options in the R.I. and nearby Massachusetts area on its Housing Service. The Housing Service can be accessed through the Auxiliary Housing website at: http://www.brown.edu/Administration/Auxiliary_Housing/AH/index.php. Both the Office of Residential Life and Auxiliary Housing are located in Wayland House, at the corner of George and Brown Streets.
**Third World Center**

The Third World Center at Brown University, created in 1976, was designed to serve the interests and meet the needs of all Third World students and to promote racial and ethnic pluralism in the Brown community. The Third World Center is located in Partridge Hall at 68 Brown Street, directly across from Faunce Arch and the Main Green.

Brown University’s Third World Center provides an arena in which students can explore their cultural heritage and review current issues affecting their ethnicity at Brown and in society at large. The center, in collaboration with student organizations, academic and co-curricular departments, sponsors over 250 lectures and programs throughout the academic year to which all Brown students are invited. They include but are not limited to: Native American History Series (year round), Multiracial Heritage Week (October), Asian/Asian American History Month (November), South Asian Heritage Week (November), Black History Month (February), Caribbean Heritage Week (March), Cape Verdean Week (March), Latino History Month (April), Puerto Rican Cultural Week (April), Semana Chicana (April), and Native American Spring Pow Wow (April). In addition to these history months and cultural weeks, the other flagship programs of the center are the Third World Transition Program (TWTP) and the Minority Peer Counseling Program (MPC).

Resources available to students include guidance on event planning, leadership conferences, a library focusing on Third World issues, study aids, and Third World Senior Honors Theses; information on career opportunities, a website, available space for studying, meetings and receptions. The center also houses several student organizations and several student staffers (401) 863-3637.

- **Director:** Dean Karen E. McLaurin-Chesson, Associate Dean of the College
- **Administrative Assistant:** Anne Marie Ponte (ext. 3-2120)
- **Project Coordinator:** Dean Kisa Takesue

For additional information please visit the Center’s webpage at: [http://www.brown.edu/Student_Services/TWC/index.html](http://www.brown.edu/Student_Services/TWC/index.html)

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**Undergraduate Student Organizations**

Special interest houses, fraternities, student organizations and extracurricular student activities are under the general supervision of the Office of the Dean for Campus Life. The undergraduate student government organization, the Undergraduate Council of Students, determines minimum eligibility requirements for membership in the more than two hundred student organizations as well as the status of both existing and proposed student organizations.
Prizes, Premiums, and Honors

Complete details concerning endowed funds from which prizes and premiums are paid and special conditions which must be taken into consideration in making awards may be obtained from Dean Perry Ashley, Chair of the Committee on Prizes and Premiums.

The University reserves the right to withhold any award for any reason it deems valid.

Prizes for Excellence in Preparatory Studies

Prizes for excellence in certain preparatory studies are awarded each year during the first semester to members of the entering class on the basis of special examinations as described below. Examinations separately judged with separate awards but covering the same material are conducted simultaneously for both men and women.

The competitions in Greek, Latin, and Mathematics are open to all freshmen. However, those in the French, German and Spanish languages, respectively, are open only to those freshmen whose knowledge of the language concerned has been gained through secondary school studies rather than from family or community contacts.

THE PRESIDENT FRANCIS WAYLAND PRIZES, derived from the income of a fund presented in 1843 by President Wayland, and later increased, are awarded each year to those members of the freshman class who upon examination are found to excel in preparatory Greek and Latin.

THE HARTSHORN PRIZES IN MATHEMATICS, derived from the income of a fund presented to the University in 1872 by Joseph Charles Hartshorn of the class of 1841, are awarded each year to the two members of the freshman class who are found to excel in an examination on elementary algebra (through quadratic equations and the binomial theorem) and plane geometry.

THE HYPATIA PRIZES IN MATHEMATICS, derived from the income of a fund named for Hypatia of Alexandria, and presented anonymously in 1951, parallel for women freshmen the Hartshorn prizes for men.

THE ALBERT BUSHNELL JOHNSON PRIZES IN FRENCH are derived from part of the income of the Albert Bushnell Johnson Fund bequeathed to the University in 1949 by Edward K. Aldrich, Jr. and are awarded each year to the two members of the freshman class who are found to excel in preparatory French.

THE CAESAR MISCH PRIZES IN GERMAN, established in 1913 by a gift of Mrs. Marion L. Misch, are awarded to the two members of the freshman class who are found to excel in preparatory German.

THE ASA CLINTON CROWELL PRIZES IN GERMAN, derived from the income of a fund established in 1928 by alumnae of the University, are awarded to the two women members of the freshman class who are found to excel in preparatory German.

THE LOPE DE VEGA PRIZES IN SPANISH, established in 1962 by anonymous gift, are awarded to two men of the freshman class who are found to excel in preparatory work in Spanish.
Prizes and Premiums for Excellence in Undergraduate Studies

THE GABRIELA MISTRAL PRIZES IN SPANISH, established in 1962 by anonymous gift, are awarded to two women of the freshman class who are found to excel in preparatory work in Spanish.

THE KIM ANN ARSTARK MEMORIAL AWARD IN POETRY is derived from a fund established in 1971 by Mr. and Mrs. Lester D. Arstark in memory of their daughter. It is awarded annually for a poem or poems “in celebration of life.”

THE DEREK CANFIELD BARKER PRIZE was established in 1994 through a gift from Richard C. Barker ’57 and Abbie D. Paterson ’57 in memory of their son, Derek. The purpose of this prize is to recognize students who have shown qualities of leadership, who have triumphed over adversity, and who have worked to bring the Brown community together through community service.

THE ALBERT ARNOLD BENNETT, CLASS OF 1872, AWARD FUND was established by an anonymous donor through several gifts made between 1941 and 1949. The fund is in memory of the Reverend Albert A. Bennett, D.D., pioneer missionary to Japan, and is available annually for award purposes, but not continuously for any one object.

THE PHILoSHERMAN BENNETT PRIZE was established in 1904 by Philo Sherman Bennett for the “best essay discussing the principles of free government.”

THE HONORABLE THOMAS WILLIAMS BICKNELL MEMORIAL AWARD was established in 1963 by the National Society of Sons and Daughters of the Pilgrims as a memorial to Thomas Williams Bicknell. The prize is awarded for an essay in American history.

THE BRAND MUSICAL PREMIUM is derived from a fund established in 1960 by William C. H. Brand as a memorial to William and Mina R. Brand and is divided equally between two seniors of Brown University, one man and one woman, on the basis of merit.

THE TRISTAM BURGES PREMIUM IN ENGLISH, instituted in 1953, is given at the end of the junior year to the woman student “with the highest standing in rhetoric, English composition, and public speaking.”

THE BUXTEHUDE PREMIUM FOR MUSICAL EXCELLENCE was established by a gift from an anonymous donor to provide annual premiums for one or more undergraduates in the junior year.

THE THOMAS CARPENTER PRIZES FOR ELOCUTION, derived from the income of a fund established in 1867 by Thomas Carpenter, are awarded each year to the three students to whom are assigned the first, the second, and the third rank of excellence in elocution.

THE THOMAS CARPENTER AND LYDIA CARPENTER PREMIUMS were established in 1869 by Lydia Carpenter, on behalf of her late brother. They are assigned at the end of the academic year to the two members of the senior class who, “already on scholarships, shall, in the judgment of the faculty, unite in the highest degree the three most important elements of success in life—ability, character, and attainment.”
THE HOPE CHATTERTON PRIZE IN MUSIC, to memorialize Hope Chatterton, was instituted in 1946, by anonymous donation. A prize is given in the spring to a woman student who in public audition is deemed to excel in piano performance.

LEALYLN B. CLAPP PRIZE for an outstanding undergraduate thesis in chemistry. The prize honors Professor Clapp, who retired in 1983 after a long and distinguished career in the Brown chemistry department.

THE CLASS OF 1873 PRIZES are derived from the income of a fund presented in 1877 by the class of 1873 and are awarded each year to seniors for essays on such topic(s) as the “faculty may, from time to time, deem most expedient.”

THE CLASS OF 1906 MEMORIAL PREMIUM was established in 1956 by the will of Harry Knowles, Brown 1906. Currently the premium is awarded to a student who has completed with highest distinction the honors program in Russian studies.

THE CLASS OF 1952 PREMIUM is derived from the income of a fund established in 1952 by the Class of 1952, at the College. It is awarded annually to an outstanding student at the end of his or her junior year, on the basis of excellence in scholastic achievement and extracurricular activity.

THE CLARKSON A. COLLINS, JR., PRIZE IN AMERICAN HISTORY is derived from the income of a fund given to Brown University in 1941 by Letta I. Collins in memory of her son. An annual prize is offered for the best paper on any approved topic dealing with the American Merchant Marine or Navy. Competition is restricted to men in the junior or senior class.

THE CURT JOHN DUCASSE PREMIUM IN METAPHYSICS is paid from income of a fund established anonymously in 1958. The premium is awarded to a freshman, sophomore, or junior who excels in metaphysics and related subjects.

THE ROBINSON POTTER DUNN PREMIUM. The income of a premium scholarship fund presented to the University in 1872 by pupils and friends of Professor Robinson Potter Dunn is given, at the end of the junior year, to the student “with the highest standing in rhetoric, English composition, and public speaking.”

THE ADOLPH CONRAD ELY PREMIUM IN GERMAN is derived from a fund bequeathed in 1941 to Brown University by Adolph Conrad Ely, teacher, of the class of 1894. A premium is awarded annually to the senior with highest standing in Germanic languages and literature.

THE BETH LISA FELDMAN PRIZE IN ENGLISH COMPOSITION is derived from a fund established in 1966 by Mr. and Mrs. Robert Feldman. This competition is open to all students of the University. Preference is given to the writing of stories for children.

THE WILLIAM LEOPOLD FICHTER PREMIUM IN SPANISH was established in 1962 by anonymous gift. The premium is awarded to a member of the junior class who has the highest standing in courses in Spanish language and literature.

THE IRVING LYSANDER FOSTER PREMIUM IN FRENCH is awarded from the income of a fund established in 1940 by Warren Woden Foster and Hatie Foster Moore in memory of
their father, Irving Lysander Foster, of the class of 1893. The premium is awarded at the end of the academic year to that freshman who excels in French.

THE LAFAYETTE SABINE FOSTER PRIZE IN GREEK is derived from the income of a fund bequeathed in 1880 by the Hon. Lafayette Sabine Foster, of the class of 1828. This income is to be paid annually “to that scholar of the institution who passes the best examination in the Greek language, the examination to be made in the first, third, sixth, and twenty-fourth books of Homer’s *Iliad*, or in the *Oration on the Crown* by Demosthenes.”

THE GASPEE CHAPTER DAUGHTERS OF THE AMERICAN REVOLUTION PRIZE. This prize, instituted in 1895, is now paid from the income of a fund presented to Brown University in 1899. The prize is awarded annually to that woman student who presents the best paper written as a class assignment in an American history course.

THE WILLIAM GASTON PREMIUM SCHOLARSHIP is provided by the income of a fund established in 1899 by the widow and the children of the Hon. William Gaston, LL.D., of the class of 1840. The scholarship is awarded to a member of the senior class solely upon scholarly merit.

THE WILLIAM GASTON PRIZE FOR EXCELLENCE IN ORATORY. From the income of a fund established in 1894 as a memorial to the Hon. William Gaston, LL.D., of the class of 1840, a prize is awarded annually to the member of the graduating class who presents the best original address.

THE PRESTON GURNEY LITERARY PRIZES are derived from the income of a fund bequeathed in 1928 to Brown University by Preston Gurney, of the class of 1866. From the income of the endowment two prizes are awarded annually to members of the senior class for the best essays on approved literary topics.

THE FRANCES MASON HARRIS ’26 PRIZE established in 1983, is awarded annually to a woman undergraduate or graduate student for a book-length manuscript of poetry or prose-fiction.

THE MARION HASSENFELD PREMIUM IN MUSIC is paid from a fund bequeathed in 1960 by Marion Hassenfeld. It is an annual award to a woman student who “excels in music or music appreciation.”

THE MINNIE HELEN HICKS PREMIUM IN ENGLISH is awarded at the end of the senior year to the woman student who has “the highest standing in the courses in English literature and language.”

THE MINNIE HELEN HICKS PRIZES IN ART are awarded from income of the Minnie Helen Hicks Fund, for creative work in art by women students.

THE MINNIE HELEN HICKS PRIZES IN CLASSICAL APPRECIATION, instituted in 1953 from income of the Minnie Helen Hicks Prize Fund, is currently awarded to the woman undergraduate who presents the best paper in the course in Greek art and archaeology or in Greek and Roman history, these being offered in alternate years.

THE MINNIE HELEN HICKS PRIZES FOR ELOCUTION parallel, for women students, the Thomas Carpenter Prizes for Elocution established in 1867 for men students.

THE RATCLIFFE HICKS PREMIUM IN ENGLISH, established in 1915, from income from the Ratcliffe Hicks Fund of 1907, is awarded at the end of the senior year to the male student who has “the highest standing in the courses in English literature and language.”
THE RATCLIFFE HICKS PRIZES AND PREMIUMS FOR EXCELLENCE IN DEBATE, established in 1891 by the Hon. Ratcliffe Hicks, of the class of 1864, and by bequest in 1907, are awarded annually for intercollegiate debates and interclass debates.

THE DAVID HOWELL PREMIUM is awarded from income of a premium scholarship fund presented to the University in 1866 by Gamaliel Lyman Dwight in honor of his grandfather, David Howell. The premium is given at the close of the first semester of the senior year to the student who, “having a good record of deportment, has the highest rank in Mathematics and Natural Philosophy.”

THE DOMENICO A. IONATA FUND, established by gifts of the family of Domenico A. Ionata, Class of 1926, provides for a premium to be awarded annually to that senior concentrating in engineering who demonstrates an unusual degree of creativity and imagination in an independent study project.

THE JIN PRIZE FUND was established in 1997 in honor of the late Professor Young-Son Jin and his wife, Mrs. Kyunghee Jin. This prize will be awarded to the most outstanding graduating senior on the basis of academic achievement and service.

THE PROFESSOR I. J. KAPSTEIN FUND, established by friends, students, and colleagues of Professor Kapstein, provides a premium for that undergraduate who has done the best work in the areas of literature, creative writing, or theater arts.

THE JAMES F. KIDWELL PRIZE IN GENETICS OR POPULATION BIOLOGY is awarded each year to a graduating biology concentrator for excellence in course work and research in these areas. The prize is in honor of Professor Kidwell.

THE NOAH KRIEGER MEMORIAL FUND was established in 1995 by family and friends of Noah Krieger, Class of 1993. Awards from this fund are given annually to one or more seniors studying in the A. Alfred Taubman Center for Public Policy and American Institutions who have demonstrated outstanding accomplishment and intellectual ability.

THE SAMUEL C. LAMPORT PRIZES IN INTERNATIONAL UNDERSTANDING, first offered in 1943 by annual gift of the Trustees of the Samuel C. and Miriam D. Lamport Foundation, are now awarded from the income of a fund donated to Brown University in 1952 by these trustees. The prizes are offered to undergraduate students for papers on international understanding, with emphasis on cooperation and tolerance.

THE LUCIUS Lyon PRIZES IN LATIN are derived from the income of a fund presented in 1893 by Mrs. Caroline L. Lyon, in memory of her husband, Lucius Lyon, of the class of 1844. The prizes are awarded on the basis of a special examination relating to any or all of the following subjects: the Latin language, Latin literature, Roman history.

THE GEORGE H. MAIN ’45 FUND, established by gifts of the family and friends of George H. Main, class of 1945, provides for a premium to be awarded annually to that senior in engineering who is distinguished by his diligence and devotion to studies rather than for high grades and who holds promise of success in his field.

THE MURIEL HASSENFELD MANN PREMIUM IN MUSIC is paid from a fund bequeathed to the University in 1960. An annual award is made to a woman student who excels in music, music appreciation, or both.

THE HENRY PARKER MANNING MATHEMATICAL PRIZES, instituted in 1936 by annual gift, as the “Calculus Prizes,” are now paid out of the annual income of a fund established
anonymously in 1949, on the ninetieth birthday of Henry Parker Manning, Brown 1883, mathematician and scholar of ancient languages. Competition is restricted to juniors.

THE BISHOP MCVICKAR PRIZES were instituted in 1909 by the Rt. Rev. William Neilson McVickar, Bishop of the Protestant Episcopal Diocese of Rhode Island, 1898–1910, and are now awarded from the income of a fund established in 1923 in his memory by his sister, Miss E. C. McVickar. The prizes are awarded for the best papers submitted under conditions designated by the Department of Religious Studies.

THE ALEXANDER MEIKLEJOHN PREMIUM IN LOGIC is paid from income of a fund established anonymously in 1951. The premium is awarded to a freshman, sophomore, or junior who excels in logic and related subjects.

THE EVA A. MOOAR PREMIUM is derived from a fund established in 1967 by the gift of Mrs. Edward M. Kanzler (Lydia W. Mason ’31) honoring Eva A. Mooar, Pembroke Dean of Admissions 1926–54. It is awarded annually to that woman student of the senior class “whose achievement over her college years gives evidence of the greatest mental growth and who has contributed to the college and to the community.”

THE WALTER JOSEPH NELSON MEMORIAL PREMIUM FOR EXCELLENCE IN MUSIC, instituted in 1957, is paid from an expendable fund given to the University by friends of the late Dr. Walter J. Nelson, Brown 1934.

THE JAMES ALDRICH PIRCE PRIZE is awarded from the income of a fund established in 1927 by Miss Florence Pirce in memory of her brother, a member of the class of 1892. The prize is currently awarded to the male undergraduate who presents the best paper in the course in Greek art and archaeology or in Greek and Roman history, these being offered in alternate years.

THE MORRIS L. POVAR PRIZE IN PHYSIOLOGY OR ZOOLOGY is awarded annually to a senior biology concentrator for outstanding academic performance and research. The prize was established in honor of Professor Povar.

THE ROSE LOW ROME MEMORIAL PRIZE IN POETRY, paid by gift by Mrs. Peter H. Ten Ecyk (Arlene B. Rome, Pembroke ’43), is awarded annually for the best poem or poems submitted to the English department by an undergraduate or graduate student.

THE SUSAN COLVER ROSENBERGER PRIZES were established in 1919 by Jesse L. Rosenberger, as a memorial to his wife, who was the daughter of Charles K. Colver, of the class of 1842. The awards are to be made under conditions to be laid down by the University.

THE ROSTROPOVICH PRIZE IN MUSIC is awarded to the outstanding graduating string musician in the Brown Orchestra.

THE ROYCE FELLOWSHIP, established by a generous gift from Charles M. Royce, ’61, recognizes undergraduates who have gained distinction for their outstanding scholarship, leadership, creativity, and service.

THE HAROLD SCHLOSBERG MEMORIAL PREMIUM IN PSYCHOLOGY is derived from income of a fund established in 1964 by the colleagues, former students, and friends of Harold Schlosberg, professor of psychology and chair of the department, 1954–1964. It is awarded annually to an outstanding senior concentrating in psychology.

THE MURIEL FAIN SHER MEMORIAL PREMIUM IN PSYCHOLOGY is derived from the income of a fund established in 1952 by the friends of Muriel Fain Sher. It is awarded annually
to the most outstanding woman student in the senior class “showing the greatest promise in
the field of Psychology.”

THE SUSAN ROSS STEINFIELD MEMORIAL FUND was established in 1984 by the family
and friends of Susan Ross Steinfield, class of 1961. Awards from this fund are made to
seniors who have contributed significantly to the performing arts during their
undergraduate years.

MARGARET B. STILLWELL PRIZE awarded each year by the John Russell Bartlett Society
for the best collections of books developed by undergraduates attending colleges in the state
of Rhode Island. Entry forms available at the John Carter Brown Library.

THE GILBERT STUART PRIZES IN ART have been awarded since 1965, from income of the
Gilbert Stuart Prize Fund, established in 1955–56 by friends of Brown University and of
the art department, and named in honor of the renowned painter, a native of Rhode Island,
for creative work in art.

THE TECHNICAL ANALYSIS CORPORATION AWARDS given annually by Dr. David M.
Rosenbaum ’56, President of TAC, to an undergraduate member of Sigma Xi and Tau Beta
Pi who best exemplifies the ideal of “whole person” by demonstrating excellence and
initiative outside science and engineering.

THE ROHN TRUELL PREMIUM IN APPLIED MATHEMATICS is derived from income of a
fund established in 1968 by friends of Rohn Truell, former professor and chair of the
Division of Applied Mathematics. It is awarded annually to a member or members of the
senior class concentrating in applied mathematics, who during their studies at Brown have
achieved high distinction.

THE MARJORIE HARRIS WEISS MEMORIAL PREMIUM IN HISTORY is awarded annually
to the outstanding undergraduate woman student majoring in history.

THE ROSAMOND WINSLOW WOODWIND PRIZE established by Mr. and Mrs. Marcellus D.
Lemaire and friends of Miss Rosamond W. Lemaire, Pembroke 1961, is given on the basis
of a public audition.

Advanced Awards

THE SAMUEL T. ARNOLD FELLOWSHIPS were established in 1964 by Thomas J. Watson,
Jr., ’37, in memory of Samuel T. Arnold, class of 1913, who was dean at Brown from 1929
to 1949 and later provost of the University. The fellowships provide unusually promising
seniors with a year of foreign travel and independent study following graduation.

THE HARVEY A. BAKER FELLOWSHIPS were established in memory of Harvey A. Baker,
class of 1903, by his wife. These fellowships support the first year of graduate or
professional study for students who “have high scholastic standings, have participated in
college activities, and have shown qualities of leadership” at Brown.

THE ANNE CROSBY EMERY ALUMNAE FELLOWSHIP provides financial assistance to
women in the graduating class who continue their education in professional or graduate
school. The fellowship was established in 1914 by the Alumnae Association to honor Anne
Crosby Emery, the second dean of the Women’s College of Brown University.

THE BERNARD ROY POLLOCK MEMORIAL PRIZE established in 1984 to honor the
memory of Bernard Roy Pollock of the class of 1948, is awarded to a graduating senior,
accepted at an accredited law school, who “best exemplifies the personal and professional characteristics which made Bernie Pollock an outstanding member of the communities in which he lived and worked.”

THE WILLIAM ROBERT POTTER, 1887, PREMIUM IN CHEMISTRY, was established in 1942 from income of a fund bequeathed by William R. Potter. The premium is awarded “on the basis of a thesis of highest merit submitted by a postgraduate student specializing in chemistry.”

THE BARRY JAY ROSEN PREMIUM IN MOLECULAR BIOLOGY was established in 1966 by friends and associates of Barry Jay Rosen, a graduate student at Brown from 1962–1965, who was awarded the Ph.D. degree posthumously in 1966. The premium is awarded to a graduate student for high achievement in the field of molecular biology.

THE BROWN CHAPTER OF SIGMA XI AWARD FUND was given to Brown University in 1954 by the Brown Chapter of Sigma Xi for an award toward the encouragement of science, whether for research, teaching, or otherwise.

**Honorary Societies**

**Phi Beta Kappa**
The Rhode Island Alpha of the Phi Beta Kappa Society was established at Brown University in 1830. Phi Beta Kappa seeks to reward “acquisition of liberal culture; command of cultivated expression in speech and writing; intellectual honesty and tolerance; breadth of intellectual interest; understanding not merely knowledge.” In terms of present day concerns and curricular structures, this is interpreted to mean that Phi Beta Kappa seeks to recognize, and thus to encourage, intellectual distinction among undergraduates, as attested by substantial formal evidence of outstanding academic accomplishment in the course of a broad educational experience. Excessively narrow preoccupation with any discipline or field of study may constitute grounds for disqualification even in cases of unquestionably superior academic performance. At least 40% of a candidate’s course work must be in mathematics, humanities, or the social sciences.

Election to Phi Beta Kappa is very competitive. Although not more than one-sixth of the candidates for the bachelor’s degrees (A.B. and Sc.B.) may receive invitations to become members, in recent years no more than one-tenth of a class has generally been invited into membership.

**Sigma Xi**
The Society of the Sigma Xi was founded in 1886 for the encouragement of original investigation in science, pure and applied. The Brown University Chapter, established in 1900, sponsors lectures in a variety of scientific disciplines during the academic year.

Nominations for membership are made by representatives of the various science departments. From the list of nominees the Board of Electors, meeting in February each year, elects those deemed eligible. This Board consists of the Chapter President, the Chapter Secretary, who acts *ex-officio* as Chair, and a representative from each of the following departments: Applied Mathematics, Biology and Medicine, Chemistry, Cognitive and Linguistic Sciences, Computer Sciences, Engineering, Environmental Studies, Geological Sciences, Mathematics, Neuroscience, Physics, Psychology.
Tau Beta Pi

The Tau Beta Pi Association, national engineering honor society, was founded at Lehigh University in 1885 to mark, in a fitting manner, those who have conferred honor upon their alma mater by distinguished scholarship and exemplary character as undergraduates in engineering, or by their attainments as alumni in the field of engineering, and to foster a spirit of liberal culture in the engineering colleges of America. Each chapter has full control of its individual affairs, the control being vested primarily in the undergraduate members. An alumni advisory board may act in an advisory and judiciary capacity.

To be eligible for election to membership as an undergraduate, the student must be in either the junior or senior year. To be eligible as a junior, scholastic records must fall within the top eighth of the class and as a senior the top fifth. Distinguished scholarship, while the primary requisite for admission, is not considered the sole criterion. After the scholarship requirements have been fulfilled, the selection is based on integrity, breadth of interest both inside and outside of engineering, adaptability, and unselfish activity. An alumnus, either of Brown University or other accredited engineering schools, may be elected to membership if he or she has a proven record of character, ability, and integrity, the election still being made by the undergraduate chapter.

The Rhode Island Alpha Chapter was installed at Brown University on February 12, 1954. At the time of the installation of the chapter, in addition to the charter members, 128 alumni members were initiated, mostly alumni who would have been eligible for membership in the society had the chapter existed prior to their graduation.

Rosenberger Medal

The Susan Colver Rosenberger Medal of Honor is awarded by designation of the Faculty. Provision for the medal was made in 1919 by Jesse L. Rosenberger as a memorial to his wife, with the stipulation that it be used to recognize “specially notable or beneficial achievement in scholarship, in authorship, in public life of any kind, or relating to the advancement of the public welfare, or for whatever it may be thought best to honor and commemorate...” The recipients and years of past awards are the following:

<table>
<thead>
<tr>
<th>Name</th>
<th>Year</th>
<th>Name</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>William Williams Keen</td>
<td>1925</td>
<td>Thomas John Watson, Jr.</td>
<td>1968</td>
</tr>
<tr>
<td>Charles Evans Hughes</td>
<td>1928</td>
<td>Henry Merritt Wriston</td>
<td>1976</td>
</tr>
<tr>
<td>John Davison Rockefeller, Jr.</td>
<td>1931</td>
<td>Richard Salomon</td>
<td>1982</td>
</tr>
<tr>
<td>Charles Value Chapin</td>
<td>1935</td>
<td>Charles Carpenter Tillinghast, Jr.</td>
<td>1982</td>
</tr>
<tr>
<td>Mary Emma Woolley</td>
<td>1937</td>
<td>Howard Robert Swearer</td>
<td>1983</td>
</tr>
<tr>
<td>Fred Tarbell Field</td>
<td>1940</td>
<td>Otto Eduard Neugebauer</td>
<td>1987</td>
</tr>
<tr>
<td>Henry Dexter Sharpe</td>
<td>1944</td>
<td>Roderick Milton Chisholm</td>
<td>1992</td>
</tr>
<tr>
<td>Zechariah Chafee, Jr.</td>
<td>1947</td>
<td>Vartan Gregorian</td>
<td>1997</td>
</tr>
<tr>
<td>Warren Randolph Burgess</td>
<td>1953</td>
<td>Sheila E. Blumstein</td>
<td>2001</td>
</tr>
<tr>
<td>Rowland Roberts Hughes</td>
<td>1955</td>
<td>Artemis A.W. Joukowsky</td>
<td>2005</td>
</tr>
<tr>
<td>Theodore Francis Green</td>
<td>1956</td>
<td>Martha Sharp Joukowsky</td>
<td>2005</td>
</tr>
<tr>
<td>Alexander Meiklejohn</td>
<td>1959</td>
<td>Claiborne deBorda Pell</td>
<td>2006</td>
</tr>
<tr>
<td>Waldo Gifford Leland</td>
<td>1965</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Summary of Degrees

As of May 2006, there were enrolled the names of 106,693 graduates, both men and women. Of this number 83,383 had received the bachelor's degree; 20,850 had received advanced degrees; 2,460 had received the degree of doctor of medicine; 1,524 had received honorary degrees.

For additional information regarding degrees and enrollments, please visit the website for the Office of Institutional Research at:
http://www.brown.edu/Administration/Institutional_Research/

Honorary Degrees Conferred by the University

September 29, 2003 (Stephen A. Ogden Jr. Memorial Lecture on International Affairs)

Mikhail Gorbachev, Doctor of Laws

Commencement May 31, 2004

Fernando Henrique Cardoso, Doctor of Laws
Malcolm G. Chace, Doctor of Humane Letters
Shirin Ebadi, Doctor of Laws
Paul Farmer, Doctor of Medical Science
Suzan-Lori Parks, Doctor of Letters
Jane Pauley, Doctor of Humane Letters
Stephen Robert '62, Doctor of Humane Letters
Judith Rodin, Doctor of Laws
Gary Trudeau, Doctor of Letters

Commencement May 29, 2005

Christo, Doctor of Fine Arts
Jeanne-Claude, Doctor of Fine Arts
David Eggers, Doctor of Letters
Sidney E. Frank '42, Doctor of Humane Letters
Wesley T. Huntress Jr., Doctor of Science
Mary-Claire King, Doctor of Medical Science
Phylicia Rashad, Doctor of Fine Arts
William R. Rhodes ’57, Doctor of Humane Letters
Sima Samar, Doctor of Humane Letters
Philip A. Smith, Doctor of Divinity

Commencement May 28, 2006

Geoffrey Canada, Doctor of Humane Letters
Juliet V. Garcia, Doctor of Humane Letters
Kay Redfield Jamison, Doctor of Medical Science
Friedrich St. Florian, Doctor of Fine Arts
Suniti Solomon, Doctor of Medical Science
Paul A. Volcker, Doctor of Humane Letters
Martin J. Granoff, Doctor of Humane Letters
Ngozi Okonjo-Iweala, Doctor of Laws
October 6, 2006 (Sidney E. Frank Hall for Life Sciences Dedication)

Susan Hockfield, Doctor of Science
The Brown Alumni Association

Board of Governors 2005-2007

Elected Officers

President, Hanna Rodriguez-Farrar ’87, AM ‘90, Rhode Island
President-Elect, Spencer Crew ’71, Ohio
Secretary, John Sweney ’79, Texas
Treasurer, Elizabeth Hamburg ’86, New York

Heads of Standing Committees

George Billings ’72, Massachusetts
Peter Bopp ’78, New York
Margaret Chang ’91, Rhode Island
Matthew Cole ’91, Florida
Spencer Crew, ’71, Ohio
Xochitl Gonzalez ’99, New York
Elizabeth Hamburg ’86, New York
Laurie Margolies MD ’79, Connecticut
Matt Paknis ’85, Massachusetts
Raymond Rhinehart ’62, Washington, D.C.
Norman Sieman ’78, Massachusetts

Members

David Bloom ’71, New York
Jay Candelmo ’99, Massachusetts
Harry Elson ’88, New York
Tugba Erem ’04, England
Subir Lall AM ’90, PhD ’95, Washington, D.C.
Eugene Mahr ’77, Massachusetts
Lianne Merchant ’82, New York
David Morales ’83, Georgia
Cayetano (Guy) Sanchez ’80, Rhode Island
Justin Sanders ’04, Massachusetts
Robert Stearns ’71, Texas
Steven Zalenick ’76, Washington, D.C.

Ex-officio Members

Miriam Curtis Coleman ’77, Rhode Island
Eleanor Mascheroni ’77, New York
Daniel M. Medeiros MD ’86, New York
Jayesh Needham ’07
Jade Palomino ’07
Jonathan Rozoff ’85, New York
Russ Tyler ’71, Connecticut
## Summary of Enrollment

### The College

**September, 2004**

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
<th>Women</th>
<th>Total</th>
</tr>
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<tbody>
<tr>
<td>Freshmen</td>
<td>691</td>
<td>750</td>
<td>1,441</td>
</tr>
<tr>
<td>Sophomores</td>
<td>695</td>
<td>789</td>
<td>1,484</td>
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<tr>
<td>Juniors</td>
<td>679</td>
<td>837</td>
<td>1,516</td>
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<tr>
<td>Seniors</td>
<td>605</td>
<td>726</td>
<td>1,331</td>
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<tr>
<td>Special Students</td>
<td>70</td>
<td>172</td>
<td>242</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>2,740</td>
<td>3,274</td>
<td>6,014</td>
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</table>

**September, 2003**

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
<th>Women</th>
<th>Total</th>
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<tbody>
<tr>
<td>Freshmen</td>
<td>658</td>
<td>747</td>
<td>1,405</td>
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<tr>
<td>Sophomores</td>
<td>684</td>
<td>877</td>
<td>1,561</td>
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<tr>
<td>Juniors</td>
<td>618</td>
<td>792</td>
<td>1,410</td>
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<tr>
<td>Seniors</td>
<td>633</td>
<td>721</td>
<td>1,354</td>
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<tr>
<td>Special Students</td>
<td>65</td>
<td>111</td>
<td>176</td>
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<tr>
<td><strong>Total</strong></td>
<td>2,658</td>
<td>3,248</td>
<td>5,906</td>
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### Graduate School

**September, 2004**

<table>
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<tr>
<th></th>
<th>Men</th>
<th>Women</th>
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<tbody>
<tr>
<td>Full Time</td>
<td>829</td>
<td>739</td>
<td>1,568</td>
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<tr>
<td>Part Time</td>
<td>22</td>
<td>44</td>
<td>66</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>851</td>
<td>783</td>
<td>1,634</td>
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</tbody>
</table>

**September, 2003**

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
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<tbody>
<tr>
<td>Full Time</td>
<td>803</td>
<td>707</td>
<td>1,510</td>
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<tr>
<td>Part Time</td>
<td>57</td>
<td>50</td>
<td>107</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>860</td>
<td>757</td>
<td>1,617</td>
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</tbody>
</table>

### Medical School

**September, 2004**

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
<th>Women</th>
<th>Total</th>
</tr>
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<tbody>
<tr>
<td>Full Time</td>
<td>138</td>
<td>188</td>
<td>326</td>
</tr>
<tr>
<td>Part Time</td>
<td>6</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>144</td>
<td>192</td>
<td>336</td>
</tr>
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</table>
### September, 2003

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
<th>Women</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full Time</td>
<td>134</td>
<td>191</td>
<td>325</td>
</tr>
<tr>
<td>Part Time</td>
<td>9</td>
<td>7</td>
<td>16</td>
</tr>
<tr>
<td>Total</td>
<td>143</td>
<td>198</td>
<td>341</td>
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</tbody>
</table>

### General Summary

#### September, 2004

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
<th>Women</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>The College</td>
<td>2,740</td>
<td>3,274</td>
<td>6,014</td>
</tr>
<tr>
<td>Graduate School</td>
<td>851</td>
<td>783</td>
<td>1,634</td>
</tr>
<tr>
<td>Program in Medicine</td>
<td>144</td>
<td>192</td>
<td>336</td>
</tr>
<tr>
<td>Total</td>
<td>3,735</td>
<td>4,249</td>
<td>7,984</td>
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#### September, 2003

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
<th>Women</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>The College</td>
<td>2,658</td>
<td>3,248</td>
<td>5,906</td>
</tr>
<tr>
<td>Graduate School</td>
<td>860</td>
<td>757</td>
<td>1,617</td>
</tr>
<tr>
<td>Program in Medicine</td>
<td>143</td>
<td>198</td>
<td>341</td>
</tr>
<tr>
<td>Total</td>
<td>3,661</td>
<td>4,203</td>
<td>7,864</td>
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