GRADUATE PROGRAM

EARTH & ENVIRONMENTAL SCIENCES
Welcome to the Department of Earth and Environmental Sciences (formerly Geology and Geophysics) at Boston College. Our department explores the way the earth works and the natural and anthropogenic processes that shape our evolving planet. We are a small and friendly department with a faculty that integrates a strong commitment to quality teaching with an active research program that addresses interrelationships among the solid earth, the hydrosphere, the biosphere and the atmosphere. Faculty are currently active in research areas that include coastal and estuarine processes, earthquake and exploration seismology, environmental geology and geophysics, earth surface processes, fluvial geomorphology and remote sensing, paleoclimate and climate change, groundwater hydrology and geochemistry, igneous and metamorphic petrology and structural geology.

The department offers graduate courses and research programs leading to the M.S. in geology or geophysics; typically, 20 graduate students are in residence. Students are encouraged to obtain broad backgrounds by taking courses in geology, geophysics and environmental geosciences along with other sciences and mathematics. The department is characterized by strong working relationships among faculty, graduate students and undergraduates. The program stresses a solid background in the earth sciences as well as the ability to carry out research. It prepares students for successful careers as geoscientists in the environmental and engineering industries, oil and gas exploration or government service, and for continued studies toward a Ph.D.

Many of our students carry out field-based research that might include surveying rivers in Maine, geological mapping in our backyard in the Appalachians and farther afield in areas such as Utah and New Zealand, or going out to sea on a research vessel in the Gulf of Mexico. Students are encouraged to publish their research and present results at professional meetings. We celebrate student research every year with a day-long student colloquium, organized and hosted by the graduate students, with talks and poster presentations.

Please visit our website to learn more about our research, facilities and instrumentation. We welcome visitors and will be happy to arrange tours of the department and meetings with faculty. For more information, visit bc.edu/eesciences or contact us at 617-552-3640.
PROGRAM OVERVIEW

PROGRAMS OF STUDY

M.S.

PLAN OF STUDY
No fixed curriculum is prescribed for the M.S. Instead, a course and research program that is consistent with the student’s background and professional objectives is developed by the student and his or her faculty advisory committee. The graduate program assumes a basic undergraduate foundation in the geosciences. Students lacking such a background may be required to complete certain subjects at the undergraduate level before or during their graduate program. Master’s candidates in either geology or geophysics must complete or have completed a minimum of two semesters (or equivalent) of courses in calculus, physics and chemistry.

REQUIREMENTS
Students are required to successfully complete a minimum of 30 credit hours in the natural sciences, mathematics and engineering, approved by the faculty advisory committee. In addition, students must pass a comprehensive oral examination by the end of their fourth semester. Finally, students must complete a research thesis in order to graduate with an M.S. in geology or geophysics.

M.S./M.B.A. Dual Degree
In conjunction with the Carroll Graduate School of Management at Boston College, the Department of Earth and Environmental Sciences offers interested students the opportunity to participate in the combined M.S./M.B.A. dual-degree program. This program is excellent preparation for careers in industrial or financial geoscience management, including areas such as the environmental and petroleum industries, natural hazard assessment and natural resource evaluation and investment. For more information, contact Professor John Ebel at ebel@bc.edu.

M.S.T.

Designed for prospective teachers, the M.S.T. program is administered through the Lynch Graduate School of Education at Boston College in cooperation with the Department of Earth and Environmental Sciences. It requires admission to both schools. For more information, please contact the Office of Graduate Admissions at the Lynch School of Education at bc.edu/lsoe.

Research in Earth and Environmental Sciences
Research in the Department of Earth and Environmental Sciences includes a wide range of investigations into the way the earth works and the processes that shape our evolving planet. Opportunities are available for students to work with our faculty in the following research concentrations:
- Coastal and estuarine processes
- Earthquake and exploration seismology
- Environmental geology and geophysics
- Earth surface processes
- Paleoclimate
- Groundwater hydrology
- Igneous and metamorphic petrology
- Geochemistry and isotope geochemistry
- Dynamics and processes of sedimentary systems
- Plate tectonics
- Structural geology

Additional information about our research programs can be found at bc.edu/eesciences.
FACULTY PROFILES

ETHAN BAXTER
Associate Professor
Ph.D., University of California, Berkeley (2000)
ethan.baxter@bc.edu

RESEARCH INTERESTS
• Isotope geochemistry
• Geochronology
• Petrology
• Earth History
• Tectonics

SELECTED PUBLICATIONS

TARA PISANI GAREAU
Assistant Professor of the Practice
Associate Director of Environmental Studies Program
Ph.D., University of California, Santa Cruz (2008)
tara.pisanigareau@bc.edu

RESEARCH INTERESTS
• Agroecology
• Conservation biological control
• Sustainable food systems
• Pollination services

SELECTED PUBLICATIONS

JOHN E. EBEL
Professor and Department Chairperson
Senior Research Scientist, Weston Observatory of Boston College
Ph.D., California Institute of Technology (1981)
ebel@bc.edu

RESEARCH INTERESTS
• Earthquake seismology
• Exploration geophysics
• Theoretical seismology
• Seismic hazards

SELECTED PUBLICATIONS

J. CHRISTOPHER HEPBURN
Professor Emeritus
Ph.D., Harvard University (1972)
hepburn@bc.edu

RESEARCH INTERESTS
• Regional geology and tectonics
• Metamorphic and igneous petrology
• Geochemistry

SELECTED PUBLICATIONS
FACULTY PROFILES

RUDOLPH HON
Associate Professor
Ph.D., Massachusetts Institute of Technology (1976)
hon@bc.edu

RESEARCH INTERESTS
• Aqueous geochemistry
• Mineralogy
• Watershed studies
• Geochemistry of soils
• Environmental geology

SELECTED PUBLICATIONS

GAIL C. KINEKE
Professor
Ph.D., University of Washington (1993)
gail.kineke@bc.edu

RESEARCH INTERESTS
• Coastal and estuarine processes
• Marine sediment transport

SELECTED PUBLICATIONS

ALAN L. KAFKA
Associate Professor and Director of Weston Observatory
Ph.D., Stony Brook University (1980)
kafka@bc.edu

RESEARCH INTERESTS
• Seismology
• Earthquake hazards
• Science education and public policy

SELECTED PUBLICATIONS

SETH C. KRUCKENBERG
Assistant Professor
Ph.D., University of Minnesota, Twin Cities (2009)
seth.kruckenberg@bc.edu

RESEARCH INTERESTS
• Structural geology and tectonics
• Textural and magnetic fabric analyses
• Geochronology

SELECTED PUBLICATIONS
JEREMY D. SHAKUN
Assistant Professor
Ph.D., Oregon State University (2010)
jeremy.shakun@bc.edu

RESEARCH INTERESTS
• Paleoclimate
• Cryosphere
• Geochemistry

SELECTED PUBLICATIONS

JAMES W. SKEHAN, S.J.
Professor Emeritus and Director Emeritus, Weston Observatory
Ph.D., Harvard University (1953)
skehan@bc.edu

RESEARCH INTERESTS
• Regional geology and tectonics of New England and the margins of the North Atlantic
• Assembly and dispersal of supercontinents

SELECTED PUBLICATIONS

NOAH P. SNYDER
Associate Professor
Ph.D., Massachusetts Institute of Technology (2001)
noah.snyder@bc.edu

RESEARCH INTERESTS
• Geomorphology
• Remote sensing
• River restoration

SELECTED PUBLICATIONS

PAUL STROTHER
Research Professor
Ph.D., Harvard University (1980)
strother@bc.edu

RESEARCH INTERESTS
• Paleobotany and palynology
• Precambrian paleobiology
• Origin of land plants

SELECTED PUBLICATIONS
FACULTY PROFILES

ALFREDO URZUA
Adjunct Professor
Ph.D., Massachusetts Institute of Technology (1981)
urzua@bc.edu

RESEARCH INTERESTS
• Soil mechanics
• Reliability engineering
• Earthquake engineering
• Groundwater flow

SELECTED PUBLICATIONS

CORINNE I. WONG
Assistant Professor
Ph.D., University of Texas (2013)
wongcw@bc.edu

RESEARCH INTERESTS
• Paleoclimate
• Environmental isotope geochemistry
• Aqueous geochemistry

SELECTED PUBLICATIONS

COURSES

The combined and varied interests of the faculty, as indicated in the faculty profiles, ensure that the department offers a wide range of graduate courses. While the number and content of the graduate electives varies from year to year, the following courses are illustrative of the range of offerings:

Fall
Agroecology: The Science of Sustainable Agriculture Pisani Gareau
Advanced Structural Geology Kruckenber
Climate Change debates Shakun
Aqueous Geochemistry Hon
Remote Sensing and Image Interpretation Snyder
Environmental Hydrology Collins
Isotope Geochemistry and Geochronology Baxter
Marine Geology Department
Environmental Geophysics Cipar
Earth Systems Seminar Kineke/Wong

Spring
Paleoclimate: Proxies Wong
Exploration Seismology Ebel
Biogeochemical Cycles Wong
Introduction to Geophysics Kafka
Topics in Geobiology Strother
Applications of GIS (Geographical Information Systems) Hon
Environmental Oceanography Kineke
Exploration Seismology Ebel
Hydrogeology Urzua
Recent Theses

2015

Bianca Bello, “A High Frequency Specific Conductance Study of Dissolved Road Salt Transport in an Unconfined Massachusetts Aquifer”

David Beutel, “Groundwater Monitoring in an Aquifer Contaminated by Road Salt”

Oluwaseyi Bolarinwa, “Spatiotemporal Relationships between Earthquakes of the Mid-Atlantic Ridge and the Atlantic Continental Margins”

Oluwaseun Fadugba, “Detection of Induced Seismicity due to Oil and Gas Extraction in the Northern Gulf of Mexico, USA”


Kendall Valentine, “Characterization of the Bed, Critical Boundary Shear Stress, and Roughness Parameters in the Connecticut River Estuary”

2014

Aakash Ahamed, “Geomorphic and Land Use Controls on Sediment Yield in Eastern USA”


Justin Hertzog, “The Upper Mantle Seismic Structure Beneath Northeastern North America”


Jake Martin, “Geophysical and Geological Analysis of Fault Activity and Seismic History of the Obion River Area, New Madrid Seismic Zone (NMSZ), Western Tennessee, USA”

Austin Nijhuis, “Fluvio-deltaic Response to Relative Sea-level Fall: A Case Study of the Goose River Delta, Labrador, Canada”

Daniel Dabrowski, “Implications of Silurian Granite Genesis to the Tectonic History of the Nashoba Terrane, Eastern Massachusetts”

Jacqueline Cinella, “A Cellular Seismology Investigation of the Caribbean Plate Region”

Maricata Conlon, “A Hindcast Comparing the Response of the Souhegan River to Dam Removal with the Simulations of the Dam Removal Express Assessment Model-1”

2013

Kristin Sorota, “Age and Origin of the Merrimack Terrane, Southeastern New England: A Detrital Zircon U-Pb Geochronological Study”

Yu Xie, “Spatial Distribution and Pathways of Arsenic in Shepley’s Hill Landfill, Ayer, Massachusetts”

Brendan Hildum, “Arsenic Speciation and Groundwater Chemistry at a Landfill Site: A Case Study of Shepley’s Hill Landfill”

Jacob Anderson, “Geochemical Tracers of Surface Water and Ground Water Contamination from Road Salt”

Justin Starr, “A Geophysical and Field Survey in Central New Hampshire to Search for the Source Region of the Magnitude 6.5, Earthquake of 1638”

Rebecca Caldwell, “The Effect of Grain Size on River Delta Process and Morphology”

Hosanna Lillydahl-Schroeder, “New Petrological and In-Situ Electron Microprobe Monazite Age Constraints on the Timing of the Foxe Orogeny, Melville Peninsula, Nunavut, Canada”

Steven Fisher, “Effects of Magnitude, Depth, and Time on Cellular Seismology Forecasts”

Richard Silver, “Unsaturated Flow Analysis of Heap Leach Soils”

Stephanie Strouse, “The Effect of Millponds on Sedimentation in a Post-Glacial Mid-Coast Maine River Valley”

Recent Placements

Our M.S. program prepares students for successful careers as geoscientists in the environmental and engineering industries, oil and gas exploration or government service, or for continued studies toward a Ph.D.

Energy and Engineering

AECOM

CH2M Hill

ExxonMobil Corporation

Loureiro Engineering Associates

Norstar Petroleum

Schlumberger Geoquest

Environmental Consulting and Non-Profits

Antea Group

Brown and Caldwell

Earthwatch Institute

Environ

ERG: Environmental Resources Management

Hager Geoscience

Lake Champlain Basin Program

Ransom Consulting

World Wildlife Fund

Government and Teaching

Boston College High School

Idaho Conservation League

NASA

Pearson Education

Academic Programs

Louisiana State University

Stony Brook University

University of Memphis

University of Texas at Austin
The oldest and largest of the University’s eight schools and colleges, the Morrissey College of Arts and Sciences offers graduate programs in the humanities, social sciences and natural sciences, leading to the degrees of Doctor of Philosophy, Master of Arts and Master of Science. In addition, numerous dual-degree options are offered in cooperation with the Carroll School of Management, the Boston College Law School, the Lynch School of Education and the Graduate School of Social Work.

With approximately 1,000 students and 400 full-time faculty, the Graduate School is small enough to know you as a person, but large enough to serve you and prepare you for a rewarding life and satisfying career.

**Academic Resources**

**Research Instrumentation and Facilities**
The Department of Earth and Environmental Sciences’ research facilities are housed in Devlin Hall, with additional research facilities at Weston Observatory. Our research laboratories are outfitted with the most modern scientific equipment.

**Electron and Optical Microscopy Lab**
Tescan Vega 3 variable pressure (VP) scanning electron microscope equipped with a LaB6 source and a variety of analytical detectors including: secondary electron (SE), backscattered electron (BSE), cathodoluminescence and VP-SE. SEM is also equipped with an Oxford Instruments X-MaxN 50 mm2 SDD x-ray detector and a NordlysMax2 electron backscatter diffraction (EBSD) detector for rapid characterization of mineral compositions and crystallographic orientations. Optical microscopes include Zeiss Axioskop40 transmitted/polarized light microscope, Leica Z6 APO microscope and a Leica MZ16 stereomicroscope for mineral picking. Support facilities also include grain and thin-section polishing equipment. For additional information on analytical capabilities and supporting instrumentation, please visit the SEM Lab website.

**Thermal Ionization Mass Spectrometry (TIMS) Facility**
Brand new in 2016, the IsotopX Phoenix TIMS has nine Faraday collectors, an axial Daly photomultiplier and both 10^11 and 10^12 ohm resistors for precise measurement of small amounts of Sm-Nd, Sr and other high mass radiogenic isotope systems. The TIMS instrument is supported by a ~800 sq ft Clean Laboratory (brand new in 2016) for sample dissolution and column chemistry. The Clean Laboratory includes class 1000 room conditions, eight class 100 work cubbies and five class 100 laminar flow fume hoods. Analab hotplates and Evapoclean units, three high precision micro-balances centrifuge, ultrasonic etc.

**Isotope Ratio Mass Spectrometry Lab**
The mass spectrometer Thermo Delta V plus IRMS is equipped with universal triple collectors and an additional Faraday cups for hydrogen isotope analyses. The Delta V is linked to a Gas Bench II with a Conflo IV for analysis of carbon and oxygen isotopes in solid carbonate samples and hydrogen and oxygen in water samples. The facility includes cutting, polishings and computer-operated micromill system for sample preparing and drilling.

**Hydrogeochemistry Lab**
- Hydrogeochemistry lab serves studies of natural water systems
- Dual channel Dionex IC system (ICS-1000 and ICS-2100)—anion and cation analysis
- Shimadzu TOC-V total carbon analyzer
- Metrohm 798 MPT Titrino automated titrator
- Millipore Labscale Tangential Flow Filtration station
- PS Analytical Millennium Excalibur with HPLC column—total arsenic and arsenic speciation
- Elix and Milli-Q Millipore DI water system
- Drying oven and Lindberg furnace
- Sequential filtration equipment and vacuum pumps
- Field instrumentation: conductivity meters (Hach and YSI), LDO meters (YSI), combination DO, pH, conductivity meters (YSI), multiprobe (Hydrolab and YSI), Henry Micro Push Point samplers, water grab samplers, field water sampling pumps (Geotech) and QED bladder pump, generator (Honda)
Coastal Processes Lab
The Coastal Processes Lab is equipped for sediment transport field studies with an assortment of electromagnetic and acoustic current meters (EMCMS, ADCPs, ADVs), CTDs (conductivity, temperature, depth sensors), a dual-frequency echo sounder, optical backscatter sensors, a pump system for in situ water sampling and vacuum filtration manifold for determination of suspended-sediment concentrations. Sediment particle size analyses are carried out with a Micoromeritics Sedigraph III5120 for fines (silt and clay) and standard sieving at quarter-phi intervals for sands.

Geomorphology Lab
- Computer-based facility for analysis of changing landscapes
- Leica TPS1200 Total Station with integrated GPS
- SonTek/YSI Argonaut-SW Acoustic Doppler Flow System
- Marsh McBurney EM Current Meters Model 2000 (2) portable flow meters
- Laser Technology Laser Range Finder
- Other field instrumentation: handheld Trimble GPS GeoXT and Trimble GPS GeoXM, Trimble Juno SB Handheld GPS unit, Garmin 420s color GPSMAP Chartplotter, YSI conductivity meter Professional Plus

Rock Processing and Preparation Lab
- 2 Bico/Braun Chipmunck rock crushers
- Bico/Braun disc-mill grinder
- Hydraulic vices
- Shatterboxes with sintered alumina and tungsten carbide heads
- Assorted rock saws
- Ro-Tap grain size analysis shaking apparatus (sand and gravel)

Mineral Separation Lab
- Outotec Wilfley table
- Heavy liquid separation room
- Mineral and rock mounting and polishing
- Frantz magnetic separator
- Handpicking microscopes
- Crushing and sieving apparatus
- New Wave MicroMill drilling device

Departmental Computer Lab
- Installed software: ArcGIS 10.1, Matlab, Mathematica; on campus: SPSS, SAS, Stata, Visual Modflow
- Input data facilities: scanners, OCR
- Output facilities: color laser printers, 44-inch-wide poster plotter—Epson Stylus Pro 9800, other B/W laser printers

WESPTON OBSERVATORY
Weston Observatory is a geophysical research and science education center of the Department of Earth and Environmental Sciences. It is located in Weston, Mass., about 10 miles from BC’s Chestnut Hill campus. The observatory, which has been recording earthquakes since the 1930s, conducts basic research on earthquakes and related processes, provides public information after significant earthquakes occur, contributes to earthquake awareness to help reduce the tragic effects of earthquakes and educates future generations of geophysicists, geologists, environmental geoscientists and scientifically literate citizens.

Today’s advances in geophysical instrumentation, coupled with advances in Internet communication and social media, make it possible to explore earthquakes and the earth’s interior in unprecedented ways. Inspired by its early roots in the 1930s, which formed the foundation of a modern high-tech networked observatory of the 21st century, Weston Observatory shares in that spirit of exploration. The facilities at the observatory offer students opportunities to work on research projects in geophysics and related research areas. For more information, visit bc.edu/westonobservatory.

BOSTON AREA CONSORTIUM
The Boston Area Consortium allows graduate students to cross-register for courses at Boston University, Brandeis University and Tufts University.
Boston College is located on the edge of one of the world’s most vibrant cities. Just six miles from downtown Boston—an exciting and dynamic place to live and learn—Boston College is an easy car or “T” ride away from a booming center for trade, finance, research and education.

Home to some of New England’s most prestigious cultural landmarks, including the Museum of Fine Arts, the Isabella Stewart Gardner Museum, Boston Symphony Hall and the Freedom Trail, Boston provides a rich environment for those passionate about art, music and history. For sports fans, Boston hosts a number of the country’s greatest sports teams: the Celtics, Patriots, Bruins and, of course, Fenway Park’s beloved Red Sox. Found within a short drive from Boston are some of New England’s best recreational sites, from the excellent skiing in New Hampshire to the pristine beaches of Cape Cod.

Boston also offers a wide range of family friendly attractions, including the Children’s Museum, New England Aquarium, Franklin Park Zoo and the Museum of Science. There are roughly 50 universities located in the Boston area, and the large student population adds to the city’s intellectually rich and diverse community. Events, lectures and reading groups hosted by world-renowned scholars abound on area campuses, providing abundant opportunities to meet and network with other graduate students and faculty throughout the Boston area.

The University

Boston College is a Jesuit university with more than 14,000 students, 786 full-time faculty and more than 170,000 active alumni. Since its founding in 1863, the University has known extraordinary growth and change. From its beginnings as a small Jesuit college intended to provide higher education for Boston’s largely immigrant Catholic population, Boston College has grown into a national institution of higher learning that is consistently ranked among the top universities in the nation: Boston College is ranked 30th among national universities by U.S. News & World Report.

Today, Boston College attracts scholars from all 50 states and over 80 countries, and confers more than 4,000 degrees annually in more than 50 fields through its eight schools and colleges. Its faculty members are committed to both teaching and research and have set new marks for research grants in each of the last 10 years. The University is committed to academic excellence. As part of its most recent strategic plan, Boston College is in the process of adding 100 new faculty positions, expanding faculty and graduate research, increasing student financial aid and widening opportunities in key undergraduate and graduate programs.

The University is comprised of the following colleges and schools: Morrissey College of Arts and Sciences, Carroll School of Management, Connell School of Nursing, Lynch School of Education, Woods College of Advancing Studies, Boston College Law School, Graduate School of Social Work and School of Theology and Ministry.

General Resources

Housing

While on-campus housing is not available for graduate students, most choose to live in nearby apartments. The Office of Residential Life maintains an extensive database with available rental listings, roommates and helpful local real estate agents. The best time to look for fall semester housing is June through the end of August. For spring semester housing, the best time to look is late November through the beginning of the second semester. Additionally, some graduate students may live on campus as resident assistants. Interested students should contact the Office of Residential Life.
JOHN COURTNEY MURRAY, S.J., GRADUATE STUDENT CENTER

One of only a handful of graduate student centers around the country, the Murray Graduate Student Center is dedicated to the support and enrichment of graduate student life at Boston College. Its primary purpose is to build a sense of community among the entire graduate student population and cultivate a sense of belonging to the University as a whole. Its amenities include study rooms, a computer lab, two smart televisions, kitchen, deck and patio space, complimentary coffee and tea, and more. Throughout the year, the center hosts programs organized by the Office of Graduate Student Life and graduate student groups. The Murray Graduate Student Center also maintains an active job board (available electronically), listing academic and non-academic opportunities for employment both on and off campus.

MCMULLEN MUSEUM OF ART

Serving as a dynamic educational resource for the national and international community, the McMullen Museum of Art showcases interdisciplinary exhibitions that ask innovative questions and break new ground in the display and scholarship of the works on view. The McMullen regularly offers exhibition-related programs, including musical and theatrical performances, films, gallery talks, symposia, lectures, readings and receptions that draw students, faculty, alumni and friends together for stimulating dialogue. Located on the main campus, the McMullen Museum is free to all visitors.

CONNORS FAMILY LEARNING CENTER

Working closely with the Graduate School, the Connors Family Learning Center sponsors seminars, workshops and discussions for graduate teaching assistants and teaching fellows on strategies for improving teaching effectiveness and student learning. Each fall, the Learning Center and the Graduate School hold a one-and-a-half day “Fall Teaching Orientation” workshop designed to help students prepare for teaching. The center also hosts ongoing seminars on college teaching, higher learning and academic life; assists graduate students in developing teaching portfolios; and provides class visits and teaching consultations, upon request. Through these and other activities, the Connors Family Learning Center plays an important role in enhancing the quality of academic life at Boston College.

FLYNN RECREATION COMPLEX

The 144,000-square-foot Flynn Recreation Complex houses a running track; tennis, basketball, volleyball, squash and racquetball courts; an aquatics center with pool and dive well; saunas and more. Its 10,000-square-foot Fitness Center offers more than 100 pieces of cardio equipment, a full complement of strength training equipment and free weights, an air-conditioned spin studio and three air-conditioned group fitness studios. During the academic year, BC Rec holds more than 80 group fitness classes per week in a variety of disciplines, including Zumba, spin, yoga, strength training, Pilates and more.

BOSTON COLLEGE CAREER CENTER

The Boston College Career Center works with graduate students at each step of their career development. Services include self-assessment, career counseling, various career development workshops, resume and cover letter critiques, and practice interviews. In addition to extensive workshop offerings, Career Center staff members are available throughout the year for one-on-one advising about any aspect of the career path. The Career Resource Library offers a wealth of resources, including books, periodicals and online databases.
The application deadline for fall admission is January 10. Please visit bc.edu/gsas for detailed information on how to apply.

**Application requirements Include:**

- **Application Form:** Submitted online, via the GSAS website.
- **Application Fee:** $75, non-refundable.
- **Abstract of Courses Form:** A concise overview of background and related courses completed in an intended field or proposed area of study.
- **Official Transcripts:** Demonstrating coursework completed/degree conferred from all post-secondary institutions attended.
- **GRE General Test:** Official score report required for all applicants.
- **GRE Subject Test:** Official score report recommended for all applicants.
- **Three Letters of Recommendation:** From professors or supervisors. It is highly advisable that at least one letter be from an academic source.
- **Statement of Purpose:** A brief (1-2 page) discussion of an applicant’s preparation, motivation and goals for their proposed course of study.
- **Proof of English Proficiency:** Official TOEFL/IELTS reports accepted.

**Financial Assistance**

**DEPARTMENT FUNDING**

The department is able to offer some financial assistance to qualified students. Many students function as teaching assistants within the department and receive a stipend in exchange for their services. In addition, a number of students function as research assistants, funded through faculty grants. Finally, the department awards tuition scholarships to qualified students.

**FEDERAL FINANCIAL AID**

Graduate students can apply for federal financial aid using the FAFSA. The loans that may be available to graduate students are the Federal Direct Unsubsidized Stafford Loan and Perkins Loan, based on eligibility. If additional funds are needed, student may apply for a Grad Plus Loan. For more information, see the Graduate Financial Aid website at bc.edu/gradaid or contact the Graduate Financial Aid Office at 617-552-3300 or 800-294-0294.

**OFFICE OF SPONSORED PROGRAMS**

The Office of Sponsored Programs (OSP) assists both faculty and graduate students in finding sources of external funding for their projects and provides advice in the development of proposals. OSP maintains a reference library of publications from both the public and private sectors listing funding sources for sponsored projects. In the recent past, graduate students have received research support from prominent agencies, corporations and organizations such as the Fulbright Commission, the Guggenheim Foundation, the National Science Foundation, the American Political Science Association, the American Chemical Society and the American Association of University Women.