



Graduate Catalog

WESLEYAN
UNIVERSITY

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NOTICE

Copy for the descriptive chapters and lists of officers for this issue of the Graduate Catalog was prepared as of July 2010.

Information about courses of instruction, fees, expenses, financial aid, and fellowships applies to the academic year 2010–2011. Plans of study, course titles, fees, expenses, and other matters described herein are subject to change at the discretion of the University.

The information presented in this publication is accurate as of July 2010 and is subject to change. **Further inquiries should be addressed to the Office of Graduate Student Services, Wesleyan University, Middletown, CT 06459, (860) 685-2390, Fax (860) 685-2439 or www.wesleyan.edu/grad.**

As required by law, a copy of the Wesleyan University security report is available upon request. This report includes statistics for three previous years on specific reported crimes that occurred on campus, on property that is owned or controlled by the University, and public property within a reasonably contiguous geographic area to campus. The report also includes institutional policies concerning campus security, crime prevention, the reporting of crimes, University policy on alcohol and drugs, and many other related matters. A copy of this report is available at the Office of Public Safety, or the Public Safety Web site located at: www.wesleyan.edu/publicsafety.

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Photos by Bill Burkhardt

Graduate Education at Wesleyan University

Founded in 1831, Wesleyan is an independent university of the liberal arts and sciences. Graduate programs constitute an essential element of the special character of the institution. Wesleyan has offered traditional master's degrees since 1889. In the early 1960s, the University developed programs leading to the doctor of philosophy in biology, chemistry, ethnomusicology, mathematics, molecular biology and biochemistry, and physics. In the 2009–2010 school year, there was a graduate enrollment of approximately 200 and a faculty of more than 365.

At the 178th commencement on May 23, 2010, the degree of PhD was awarded to 10 candidates, and the MA degree to 36 candidates. As of 2010, graduate students came from approximately 20 states, and 73 international students came from approximately 23 nations.

Resources and Facilities

Wesleyan is privately endowed and supported in good part by gifts from alumni and friends. The resources of the University that reach beyond the immediate uses of advanced study and research have made the campus an unusually lively center of intellectual activity. In addition to the departmental units, the University has established a number of experimental ventures in learning. These centers, colleges, and programs are interdisciplinary in nature and innovative with regard to methods. The College of Letters is a program that combines studies in Western literature, history, and philosophy. The College of Social Studies is an integrated program in government, economics, and history. The Center for the Humanities, inaugurated in 1969–70, brings together distinguished visitors and local faculty and students concentrating on a single thematic problem within the broad area of humanistic studies. The Center for African American Studies was established in 1969.

EXLEY SCIENCE CENTER

The spacious multi-unit Exley Science Center houses all of the departments of natural sciences and mathematics except astronomy. The Hall-Atwater Laboratories, connected to Shanklin Laboratory, provide approximately 110,000 square feet of floor space for chemistry and biology. The seven-story Science Tower provides 250,000 square feet of floor space for earth and environmental sciences, mathematics, physics, the computing center, and extensive machine shops and other science service facilities. Connecting Hall-Atwater and the tower building is a three-story science library wing with a collection of almost 279,000 volumes and a section containing a 300-seat auditorium and a 70-seat lecture hall equipped with modern audiovisual and other devices for science instruction.

CENTER FOR THE ARTS

Defining the northern boundary of the campus is a modern complex of 11 buildings, housing the departments of art, dance, music, and theater. Designed by Kevin Roche, John Dinkeloo and Associates, the architecture allows the individual identity of each of the arts to be maintained while encouraging the creative interaction that characterizes the arts at Wesleyan. In addition to satisfying the academic needs of the art, dance, music, and theater departments, the center provides a theater, a gallery, a concert hall, and a smaller recital hall for the world music programs. Situated within the arts complex is the Davison Art Center, a distinguished classical revival house built by the Alsop family in 1838. The house is used as a center for art history, the art library, and the Davison Art Center Collection and gallery.

CENTER FOR FILM STUDIES AND CINEMA ARCHIVES

The Center for Film Studies opened in fall 2004 as home to the nationally recognized Film Studies Department. The building houses the state-of-the-art Goldsmith Family Cinema, the Powell Family Screening Room, faculty and administrative offices, teaching spaces and production facilities, and a small gallery. The center connects to the Ogden and Mary Louise Reid Cinema Archives, which contains the papers of Ingrid Bergman and Clint Eastwood, directors Frank Capra, Federico Fellini, Elia Kazan, Martin Scorsese, John Waters, and Jonathan Demme; an extensive collection of film posters; and a variety of additional film documentation and memorabilia.

LIBRARY FACILITIES

The Wesleyan University Library, recognized as one of the finest small university libraries in the country, contains 1.2 million volumes and receives more than 6,800 periodicals. Students have complete access to the stacks. The University Library includes Olin Memorial Library, the Science Library, and the departmental libraries of art and psychology.

Olin Memorial Library, the central library, was rededicated in 1986 after a \$10-million renovation and expansion that added space for 200,000 volumes and created new reference, periodical, study and reading areas.

The Science Library collection has about 279,000 volumes, with extensive mathematics and computer science holdings. More than 900 subscriptions to mathematics and computer science journals, and approximately 100 new mathematics or computer science books arrive each month.

ATHLETIC FACILITIES

The Freeman Athletic Center contains a natatorium with a 50-meter pool and diving area; the eight-lane, all-weather Andersen outdoor track; and the Bacon Field House, all adjacent to the Spurrier-Snyder Rink for varsity hockey games and skating activities.

The addition to the center, which opened in 2005, has the 1,200-seat Division III Silloway Gymnasium, the 7,500-square-foot Andersen Fitness Center with nearly 100 machines and a full array of free weights, and the Rosenbaum Squash Center with eight international courts.

The University also has 16 outdoor tennis courts and a variety of playing fields for intercollegiate and intramural competition.

USDAN UNIVERSITY CENTER AND FAYERWEATHER

The Suzanne Lemberg Usdan University Center, which opened in fall 2007, overlooks Andrus Field, College Row, and Olin Library and fosters intellectual exchange between students, faculty, staff, and alumni. The center houses campus dining; Wesleyan Station, the university post office; the University Box Office; meeting rooms; offices for the Wesleyan Student Assembly, University Events and Scheduling, and Student Activities and Leadership Development; and retail space for the Cardinal Technology Center.

Adjacent to the Usdan University Center is the renovated Fayerweather building with its distinctive Romanesque towers, originally built in 1894 as the university gymnasium. Fayerweather houses theatrical and dance rehearsal spaces and Beckham Hall on the second floor, which can accommodate large dinners, dances, and lectures. The hall is named for the late Edgar Beckham who was dean of the college from 1973–1990.

ALLBRITTON CENTER

In 2009, the energy-efficient Allbritton Center opened as the home to two new programs: The Allbritton Center for the Study of Public Life, which links intellectual work on campus to policy issues nationally and internationally, and the Shapiro Creative Writing Center, which brings together students and faculty seriously engaged in writing.

Degree Programs

Wesleyan University offers work leading to the doctor of philosophy in biology, chemistry, ethnomusicology, mathematics, molecular biology and biochemistry, and physics, and to the master of arts degree in astronomy, computer science, earth and environmental sciences, mathematics, and music. Theses and dissertations are required for these degrees. An interdepartmental program leading to the PhD degree is offered jointly by the chemistry and physics departments. An interdepartmental program in molecular biophysics leading to the PhD is offered by the departments of molecular biology and biochemistry and chemistry. All graduate instruction is scheduled within the academic calendar of two semesters from September to June. Summer work consists of independent study and research.

Generally, a minimum of two years of study beyond the baccalaureate degree is required for the master's degree, and a minimum of four years of study beyond the baccalaureate degree is required for the doctorate degree. Most graduate students receiving financial assistance render service on a half-time basis, so that normally two years of study, including one full year of advanced research, are required for the master's and four to five for the doctorate.

Most full-time graduate students are paid through assistantships or fellowships. Tuition remission and University health services fees are also part of the candidate's financial package. A limited number of dependency allowances are awarded on the basis of demonstrated financial need. The duties of graduate students vary by department but generally involve assistance in some phase of instruction and/or research.

Selection of courses is flexible and depends on departmental advisors' recommendations. Graduate programs are small enough to permit close attention to the needs and interests of the individual student. The faculty-student ratio for graduate studies is about one to two, and class size for most graduate courses is from three to eight. There is considerable variation among programs in format, requirements, and methods of work. The programs are innovative with respect to the needs and opportunities of the particular fields of knowledge with which they deal.

Application and Admission to Candidacy

DOCTOR OF PHILOSOPHY

See detailed statements in the requirement sections of the individual department listings.

MASTER OF ARTS

The degree of master of arts will be conferred on those who hold a baccalaureate degree when they satisfactorily complete a program of advanced study, pursued in residence for a period of not less than one year.

In order to be accepted as a full-time graduate student in good academic standing, an entering student will be expected to have maintained a rating of not lower than 80 percent (B-) in the work of his or her senior undergraduate year taken as a whole.

APPLICATION

Early in the year preceding entrance, and in accordance with individual departmental application deadlines, prospective students should file the online application for graduate study with the chair of the specific graduate department. Official undergraduate/graduate transcripts should be submitted directly to the department.

Transcripts of previous study. Prospective candidates who hold baccalaureate or advanced degrees from colleges other than Wesleyan must submit official transcripts to the department.

Test scores. Some departments require the submission of Graduate Record Examination scores as part of the application process. Detailed information regarding this requirement is available through the specific graduate departments.

Foreign languages. Specific language preparation is usually required as either part of the application or as part of the program of study. Departmental statements regarding mastery of a second language may be found in the section on courses of instruction.

Notification of acceptance. Students will be notified in writing by the chair of the department or the chair of the graduate admissions committee to which they have applied of preliminary acceptance into the graduate program. Final acceptance is subject to the student's satisfactory completion of work for the baccalaureate degree and meeting the health requirements as set by the college physician and the state of Connecticut.

International students. Students whose first language is not English will be expected to demonstrate a proficiency in English sufficient to undertake graduate study. This includes the ability to read, write, and speak the language. International graduate students should submit test results from the Test of English as a Foreign Language (TOEFL) exam administered by the College Entrance Examination Board, Educational Testing Service, Princeton, New Jersey. On arrival, international students must report to the Designated School Official (DSO). Under current U.S. federal tax regulations, teaching and/or research assistantship stipends may be subject to U.S. federal income taxes. International students should consult the international tax advisor on campus regarding their particular situation.

PROGRAM OF STUDY

Prior to initial registration, students will arrange a program of study with the department in which they are accepted. The program may be confined to a single field, or it may include work in more than one field if recommended by the academic advisor in the department in which the degree is to be awarded.

At least one fifth of a student's program will be devoted to the preparation of a thesis. Programs generally include at least one year of research leading to the thesis with the student registering in courses 591 and 592 in their field of study. At least two thirds of the course work contributing to the degree program must be carried on under the direction of members of the faculty of Wesleyan University.

TESTS OF PROFICIENCY

Evidence of the candidate's proficiency in the approved program of study shall be determined by 1) an examination, oral or written or both, and 2) a thesis or, when appropriate, the submission of original creative work, as in the field of music.

In addition to the minimum requirements, departments may, at their discretion, set oral or written examinations, or other prescribed work, exercises, or requirements at any point in the program.

1. Each candidate for the master's degree must pass an oral examination. The oral examination will be given during the final examination period of the second semester. All examinations are conducted at the University.
2. The candidate is required to present two complete final copies of the thesis (or project of creative work) to the Graduate Office before the beginning of the final examination period in the spring semester. The thesis (or project) must have the approval, in writing, of not less than two instructors from the appropriate department.

THE BA/MA PROGRAM IN THE SCIENCES: A FIVE-YEAR PLAN

Wesleyan's five-year BA/MA is a formal curricular option for those Wesleyan undergraduate students who feel the need for the intensive research experience which a fifth year of study can afford. The program has a strong research orientation. It includes course work, seminars, and, in some cases, teaching. Although it is anticipated that most individuals who enroll in this program will go on for further graduate study, the program will provide a strong professional background for either further advanced study or employment in industry. It should be clear that completion of both BA and MA requirements in five years will require careful planning of one's schedule of courses and research for the last two years of the program. A student hoping to enter this program will be expected to declare the intention to do so early enough in his/her academic career to permit the design of an acceptable program for the last two years with both the major department and a research advisor within that department.

The MA requires six to eight credits in addition to the 32 necessary for the Wesleyan BA. Of these credits, two to four (at the department's discretion) will be in advanced coursework. The remaining credits may be earned through research, seminars, research practica, etc. MA credit will only be awarded for academic exercises in which grades of B minus or higher have been earned. A student in the program who earns more than 32 credits in four years may apply any excess credits toward the MA, **provided that they are in the major area or a related area and they have not been used to fulfill the undergraduate major requirement.** Students enrolled in this program will receive the BA degree after four years and the MA degree at the end of the fifth year. In order to complete the two degrees in five years, the student will submit a carefully worked out and integrated study plan for the final two years at the time of application to the program.

Wesleyan will not charge tuition for the fifth year. (Tuition will be charged, however, for credits used to make up an "upon completion" requirement.) Students needing more than five years to complete the program will pay tuition for the additional time required and an extension fee of \$250 per semester.

Financial support other than tuition remission in the fifth year is not a formal component of this program. Some students in the fifth year of the program may be able to find support either from research grant funds or as teaching assistants.

For further information on the BA/MA program or MA and PhD, visit wesleyan.edu/grad/AcademicResource/bama.html.

SPECIAL GRADUATE STUDENTS

The University will admit, up to the limit of space available in its classes, graduate students who attend on a non-matriculated, nondegree, part-time basis. This service is extended to members of the Wesleyan community, local

residents, and those in the Middletown area, which consists of the following towns: Cromwell, Durham, East Haddam, East Hampton, Haddam, Killingworth, Middlefield, Middletown, Moodus, Portland, and Rocky Hill. It applies to the courses offered in the two semesters of the academic year only and not to the summer school. A \$55 application fee is nonrefundable. All persons holding a BA degree or its equivalent will be counted in the category of special graduate students, regardless of the level of instruction (undergraduate or graduate) or the field of study in which they plan to work. Special students must submit an official transcript of their most recent academic work before their application will be considered. Prior to registration, special graduate students are required to obtain written permission to enter courses from the instructor of the course in which they wish to be enrolled, and permission from the chair of the department under which the course is offered. Forms are available in the Office of Graduate Student Services (OGSS).

Special students are not eligible for financial aid or housing. They are not permitted to utilize the student health center. They are subject to the honor system but not to the graduate activity fee. Regularly matriculated students have prior claim over special students in spaces available in classes. For information concerning enrollment and registration, prospective special graduate students should contact the OGSS.

OFFICE OF GRADUATE STUDENT SERVICES (OGSS)

The Office of Graduate Student Services is the administrative center for all graduate students enrolled in courses in the master of arts (MA) or doctor of philosophy (PhD) programs at Wesleyan. The general responsibilities of the office include: graduate admission, academic records, registration and enrollment, payroll and stipend maintenance, billing, health insurance administration, graduation audit, commencement, and the Graduate Judicial Board.

The Office of Graduate Student Services is also responsible for the administration of all services to students in the BA/MA program in the sciences, the graduate German exchange programs, the native language teaching assistants in the Department of Romance Languages and Literatures and Department of Asian Languages and Literatures, the Ford and Russell Fellows in the Writing Programs, the Prison Fellows, and Center for the Arts Interns.

The Graduate Council

The Graduate Council, in conjunction with graduate academic departments, maintains academic standards, approves and recommends changes in broad educational policy at the graduate level, advises the administration on other matters pertaining to graduate education, and oversees the work of the Graduate Judicial Board. The council consists of one representative from each of the six PhD-granting programs, one representative each from two departments offering MA programs, one representative and the president from the Graduate Student Association, and the director of the Office of Graduate Student Services. The director of graduate studies is ex officio chair of the Graduate Council.

Graduate Program Correspondence

Astronomy	www.wesleyan.edu/astro
Biology	www.wesleyan.edu/bio/graduate/graduate.html
Chemistry	www.wesleyan.edu/chem
Computer Science	www.wesleyan.edu/mathcs/index.html
Earth and Environmental Sciences	www.wesleyan.edu/ees/grad
Mathematics	www.wesleyan.edu/mathcs/index.html
Molecular Biology and Biochemistry	www.wesleyan.edu/mbb/grad
Music and Ethnomusicology	www.wesleyan.edu/music/graduate.html
Physics	www.wesleyan.edu/physics/grad/grad.html
BA/MA Program in the Sciences	www.wesleyan.edu/grad/StudentServ

General Regulations

REGISTRATION AND COURSE SELECTIONS

Graduate students are required to file registration forms online via their portfolio at the beginning of each semester. A student who fails to complete his or her semester's registration may be charged a fee of \$25 for the privilege of later registration.

TIME LIMITS AND TUITION CHARGES

Requirements for the degree of master of arts may be satisfied in two years of full-time study. The requirements must ordinarily be met within four years from the start of the semester in which the student was admitted to candidacy. There is a \$250 continuation fee per semester after the two years of study. The student must have approval of the faculty advisor or chair of the department to continue past the regular two years.

Graduate students at the PhD level who are paid a stipend continue to receive full tuition waiver and insurance benefits as part of their compensation for service to the University as either a teaching assistant, a research assistant, or in some other capacity.

Student Category	Tuition Charges
Grad students in the BA/MA Program	None (waived for one year or two consecutive semesters)
Grad students not on stipend	
Tutorial/Research, first credit	\$250/semester
Regular Courses	\$5,226.75/credit/1 course (2010/11)
Grad students supported on stipend	None (waived)

Petition for tuition aid in cases of extreme hardship can be made through the student's home department to the director of graduate studies.

CHANGE OF NAME OR ADDRESS

All students are given the responsibility of informing the University of all name and address changes pertaining to their records. Students should enter all changes in their electronic portfolio. Name changes should be submitted in writing to the Office of Graduate Student Services.

LEAVE, WITHDRAWAL, SEPARATION

Non-Academic Leave of Absence. Students wishing to take a leave of absence must file an Application for Leave of Absence at the Office of Graduate Student Services.

The Non-Academic Leave of Absence is intended for students not planning to obtain academic credit while on leave. Those students expecting to return from a Non-Academic Leave of Absence must notify the Office of Graduate Student Services of their intention. This notification must be in writing, with the endorsement of the academic advisor, and must be received no later than March 15 or November 1 prior to the semester of return.

Students are not eligible for University funding during their leave of absence. This includes tuition remission and stipend support.

Students are not eligible for University graduate housing during their leave of absence.

Students on leave are not entitled to the services of the Health Center or the Office of Behavioral Health for Students.

Students on approved leave may continue their Wesleyan sponsored health plan coverage if they have paid the premiums to the university sponsored health plan for this coverage while enrolled at the University. Go to www.gallagherkoster.com for more information.

Although Leaves of Absence are ordinarily granted for a semester or for an academic year, students may apply to extend a leave by contacting the director of graduate student services and faculty advisor and submitting a new application form. Such extensions should be requested prior to the expiration of the original leave. A student on a leave for more than four consecutive semesters is considered as having voluntarily withdrawn from Wesleyan.

Medical Leave of Absence. A medical leave is authorized by the director of graduate studies on the basis of a recommendation from the medical director of University Health Services (UHS) or the director of the Office of

Behavioral Health for Students (OBHS). Students on a medical leave must leave campus and focus on the evaluation of, treatment for, and recovery from the illness or condition which necessitates the leave. The director of graduate studies will communicate the terms of the leave as well as the conditions and procedures for returning to Wesleyan. When a medical leave is authorized, students are withdrawn from the courses in which they are enrolled.

Medical leaves typically require the positive recommendation of the medical director of UHS or the director of the OBHS. Students considering a medical leave should consult with one or both of these offices. The director of graduate student services can help facilitate a meeting if students do not already have an established relationship with a Wesleyan medical provider or therapist. In cases where a primary medical provider or therapist is off campus, students should request a letter (sent directly to the medical director of UHS or the director of OBHS) recommending and supporting a medical leave. The letter should include details regarding the condition, illness or diagnosis, and an anticipated plan of evaluation and treatment.

After the case has been reviewed by the appropriate Wesleyan staff member, the medical director of UHS or the director of OBHS will forward their recommendation to the director of graduate student services. The director of graduate student services will confer with the director of graduate studies who will communicate the terms of the leave as well as the conditions and procedures for returning to Wesleyan.

The minimum duration of a medical leave recommended by UHS is the balance of the semester in which it is authorized. The minimum duration of a medical leave recommended by OBHS is the balance of the semester in which it is authorized plus one additional semester.

Students currently on a medical leave should notify the director of graduate student services when they are prepared to return to Wesleyan. Letters of intent are due no later than July 1 for the fall semester and December 1 for the spring semester. The primary provider responsible for treatment during the leave should provide diagnosis and treatment documentation directly to the medical director of UHS or the director of OBHS. The deadline for receipt of all required materials is August 1 for the fall semester and January 1 for the spring semester. Students who do not return to Wesleyan by the termination date indicated on the Application for a Leave of Absence will be listed as having voluntarily withdrawn from the University.

After the case has been reviewed by the appropriate Wesleyan staff member, the medical director of UHS or the director of OBHS and the director of graduate student services will meet with the director of graduate studies concerning the student's preparedness to return to the University as a full-time student in residence. The director of graduate studies will make the final decision concerning the student's return, and will communicate the decision to the student. The director of graduate student services will coordinate the student's return to campus. After returning from a medical leave, students will be expected to meet with appropriate UHS or OBHS staff member(s) as directed.

Students are not eligible for university funding during their leave of absence. This includes tuition remission and stipend support.

Students are not eligible for university graduate housing during their leave of absence.

Students on leave are not entitled to the services of the Health Center or the Office of Behavioral Health for Students.

Students on approved leave may continue their Wesleyan sponsored health plan coverage if they have paid the premiums to the university-sponsored health plan for this coverage while enrolled at the University. Go to www.gallagherkoster.com for more information.

Although Leaves of Absence are ordinarily granted for a semester or for an academic year, students may apply to extend a leave by contacting the director of graduate student services and faculty advisor and submitting a new application form. Such extensions should be requested prior to the expiration of the original leave. A student on a leave for more than four consecutive semesters is considered as having voluntarily withdrawn from Wesleyan.

Parental Leave. Graduate students who receive university funded stipends are eligible for a six-week paid parental leave. This applies to both birth and adoption. In most cases, the six weeks leave should be taken when the child is born or adopted. In some instances, subject to approval, the leave could be delayed, but not usually beyond six months of the child coming into the home.

Voluntary Withdrawal. This term applies to a student who withdraws from a program of study at any time on his or her own initiative, but with the approval of the graduate department or program chair, and of the director of graduate student services.

The Office of Graduate Student Services must be informed, in writing, of the desire to withdraw. This notice must include a statement from the department or program chair stating the conditions of termination, together with recommendations for recording grades and the conditions of readmission, if applicable.

Separation. This designation refers to students required to resign for academic reasons. This category of discipline is used when the student's academic deficiencies are so serious as to warrant the student's departure from the University. The director of graduate student services receives written notification directly from the faculty advisor or department chair. The notation "separated" will be entered on the student's official transcript.

GRADES AND COMPLETION OF WORK IN COURSES

A student's work toward the MA or PhD degree is graded as follows: A, excellent, numerical value, 95; B, good, 85; C, 75; D, 65; E, 55; and F, 45. Letter grades may be modified by the use of plus and minus signs.

A faculty member, in designing any course or tutorial, has the option of giving grades of CR (credit) or U (unsatisfactory) to all members of the course. This option is declared when the course is submitted to the department for inclusion in the curriculum, and information that the course is to be graded on a CR-U basis should be available to students before their registration in the course. Any faculty member employing the CR-U system shall submit a written evaluation of each student's work in the course to the registrar.

In programs leading to the degree of doctor of philosophy or master of arts, the student must earn a grade of B-minus (80) or better in courses where letter grades are awarded. This required minimum grade also applies to the student's performance on the oral examination in the department's master's program, to the thesis independent study, and to thesis research.

In case of failure to complete the required work of a course, the grade of IN (incomplete) may be awarded to a graduate student. Grades of incomplete will be accompanied by a provisional grade that will become the final grade if the outstanding work in the course is not submitted by the first day of classes of the subsequent semester.

Fees and Financial Aid

TUITION

In programs leading to the degrees of doctor of philosophy and master of arts, the tuition for the two semesters of the academic year 2010–2011 has been set at \$31,361. Special graduate students will be assessed \$5226.75 per one credit course per semester.

Schedule of Special Fees for MA and PhD Candidates:

Health Services Fee

Covered in tuition remission fee; includes infirmary services and accident insurance from September through May.

Basic Student Health Insurance through Koster www.gallagherkoster.com

HMO Health Insurance through Cigna www.cigna.com

Graduate Student Activity Fee \$20

FINANCIAL AID

Arrangements for assistantships and the awarding of scholarships are made through individual graduate departments. Stipend arrangements vary by department. Applicants should refer to respective departments for details. Under current U.S. federal tax regulations, fellowship stipends to cover the cost of room and board are generally subject to U.S. federal income taxes. You should consider consulting with a tax advisor regarding your particular situation. Limited dependency allowances will be made available for those who demonstrate financial need.

Student loans. Graduate students may be eligible to borrow through the Federal Stafford Loan Program providing they are matriculated at least half-time and are either U.S. citizens or eligible noncitizens.

Graduate students should obtain information and application forms from the Financial Aid Office or forms can be downloaded from the following web site: www.wesleyan.edu/finaid/graduates.html. A separate Federal Stafford Loan Master Promissory Note (MPN) is required from a lender. Once eligibility is determined you will receive instructions regarding the steps to take to allow loan processing by the Wesleyan University Financial Aid Office. Application processing can take up to four weeks.

International students. Your passport must be valid for six months beyond the date on the Certificate of Eligibility (SEVIS Form I-20AB or DS-2019), which you received from Wesleyan or your sponsoring agency. You are responsible for maintaining the validity of your passport throughout your stay in the United States. The nearest consulate of your home country will revalidate your passport or issue you a new one if that becomes necessary. International students should contact the Designated School Official (DSO) for more information.

University Health Services

As part of paid tuition fees, basic health services are provided through Davison Health Center at 327 High Street and are available to those Wesleyan graduate students who have submitted a completed health history form, including a record of mandatory immunizations.

SUBMISSION OF THE MEDICAL HISTORY FORM

All graduate students are required to submit a medical history form and an up-to-date immunization record to the Health Center before registration. A physical examination is not required, but it is recommended. The immunization form must be completed and signed by your doctor. Students will not be allowed to register until a completed form has been received. Graduate students with spouses and dependents should contact the Davison Health Center regarding user information.

www.wesleyan.edu/healthservices/geninfo/forms

IMMUNIZATION REQUIREMENTS

All students who attend Wesleyan and who were born after 1956 are required by Connecticut state law to show proof of immunization against, or immunity to, measles and rubella whether or not they choose to use the Health Center services. This information must be on file at the Health Center. Contact the Davison Health Center for more information.

THE DAVISON HEALTH CENTER

The Health Center is open when classes are in session, Monday through Thursday, 9 a.m. to 7 p.m.; Friday, 9 a.m. to 5 p.m.; and Saturday, noon to 4 p.m. The Health Center is closed during the academic breaks and summer. The Health Center is staffed by physicians, nurse practitioners, a physician associate, and nursing personnel who provide a comprehensive primary care services for illness or injury to students. The staff provides an array of clinical and health education services including assessment and treatment of illnesses and injuries, health, wellness, disease prevention counseling, nutritional counseling, international travel counseling, immunizations, allergy injections, HIV testing and counseling, and referral to outside specialists.

The Health Center provides basic laboratory testing and a dispensary for many prescriptions and over-the-counter medications. In addition, the staff works closely with the director of health education to promote health education and wellness programs on campus.

APPOINTMENTS AND CLINICS

Students are encouraged to make appointments; however, walk-in visits are available for urgent care. When the Health Center is closed, our provider staff is on call and available to speak to with students by phone. An on-call message center is available to handle calls when the Health Center is closed. Please dial 860/685-2470 and select option 2 and follow the directions. www.wesleyan.edu/healthservices/

OFFICE OF BEHAVIORAL HEALTH FOR STUDENTS

The Office of Behavioral Health for Students provides services to students by appointment through its staff of psychotherapists. Emergency coverage is also provided on a 24-hour-a-day, seven-day-a-week basis while the University is in session. www.wesleyan.edu/obhs/

INSURANCE

The university-sponsored student health insurance policy provides basic insurance at a low premium for outpatient and inpatient care. A detailed summary of benefits can be obtained through the health center or by visiting www.gallagherkoster.com. Additional comprehensive insurance through Cigna is available to some graduate students. Go to www.cigna.com for more information.

GRADUATE HOUSING

Wesleyan University offers single or family housing to its graduate students. It is advisable to file an application as early as possible. Allocations are on a first-come, first-served basis. Please note rates are subject to change.

FOR SINGLE STUDENTS

Group housing. Each student has a furnished single bedroom in a wood-frame house; common areas are shared with one to five other graduate students.

One-person apartments. One-bedroom apartments are furnished or unfurnished, with a kitchen and living room. However, this type of housing is very limited; single students may be assigned to group housing.

FOR STUDENTS WITH FAMILIES

(spouse/domestic partner and/or children must reside with you):

Family housing. One-bedroom apartments will be offered to students with a spouse/domestic partner, while appropriately-sized houses or apartments will be awarded to students with children.

For additional graduate housing information, and to access the online Graduate Housing Application, go to www.wesleyan.edu/reslife/grad_housing/grad_app.html.

The Community

Middletown is a city located 15 miles south of Hartford and 24 miles north of New Haven. It lies approximately halfway between New York and Boston in the valley of the Connecticut River and is surrounded by dairy and tobacco farms. The combined residential-manufacturing community is the natural center of a trading area containing more than 100,000 persons. The city and the University make up a natural center for cultural events in the heart of the state and host an unusual array of speakers, conferences, musical performances, and theatrical events during the year. Recreational facilities lie close at hand at the shore of Long Island Sound, on the banks of the Connecticut River, and in numerous state parks. Facilities for skating, tennis, swimming, squash, skiing, golf, fencing, judo, rowing, and sailing, as well as such team sports as rugby, soccer, and basketball are provided, either directly on the campus or within the town and environs.

For additional information on Middletown, go to www.cityofmiddletown.com/.

GRADUATE STUDENT ASSOCIATION

If you are a graduate student at Wesleyan University, you are a member of Wesleyan's Graduate Student Association (GSA). A copy of the GSA constitution, outlining the purpose of the organization, is available online or will be presented at the first GSA meeting. The GSA is your organization, and it is here to help you with your experience as a graduate student. If you have any questions or suggestions about graduate student life, attend a GSA meeting or contact your GSA department representative.

In the past, GSA activities have included workshops on student tax liability and job interviewing skills, as well as a range of social events, including concerts, dances, and a semester-break film series. All are welcome to become involved, bring ideas to the meetings, or simply listen to the issues that concern graduate students. Contact the OGSS for a list of current officers and department representatives, or visit www.wesleyan.edu/grad/gsa/.

THE NEIGHBORHOOD PRESCHOOL

The University-affiliated Neighborhood Preschool provides high-quality childcare for children between the ages of four months and kindergarten entrance. Priority for admission is given to families affiliated with Wesleyan, including those in which a parent is a full-time graduate student. The programs are located in campus buildings; children may be registered in a 10-month program or a summer program or both; a wide variety of part-time options exists in addition to full-time care (8 a.m.–5 p.m., weekdays).

The NPS staff is experienced and skilled and has designed developmentally appropriate programs with favorable teacher-child ratios and high caregiver continuity. Parents and children alike feel welcome and valued. Teachers provide a warm and stable environment and regular consultations with parents. As each child grows, activities designed to stimulate the child's own curiosity and joy of discovery are offered within the context of a supportive social environment. Space is limited, so early application is advisable. For more information about programs, openings, and fees, contact: Director, The Neighborhood Preschool, 115 High Street, Middletown, CT 06457.

Courses of Instruction

GENERAL INFORMATION

The time and location of class may be found online at www.wesleyan.edu/wesmaps. The course number indicates the general character and level of the course, with graduate-level courses generally numbered 401–600. Odd-numbered courses are generally offered in the first semester, even-numbered courses in the second semester.

Wesleyan University admits students without regard to race, color, religion, national or ethnic origin, age, disability, veteran status, sex, marital status, sexual orientation, gender identity or gender expression, to all rights, privileges, programs, and activities generally accorded or made available to students at the University. It does not discriminate on the basis of race, color, religion, national or ethnic origin, age, disability, veteran status, sex, marital status, sexual orientation, gender identity or gender expression in admission to, access to, employment in, or treatment in its programs and activities.

Astronomy

A photograph of three young women standing in front of a large, blue telescope in an observatory. The woman on the left has long brown hair and is wearing a dark blue shirt. The woman in the middle has dark hair and is wearing a red shirt. The woman on the right has short brown hair, wears glasses, and is wearing a red cardigan over a purple shirt. The telescope is a large, blue, cylindrical instrument with various lenses and eyepieces. To the left of the telescope is a white, dome-shaped structure, likely part of the observatory's enclosure. The background shows the interior of the observatory with wooden paneling.

PROFESSORS:
William Herbst

ASSOCIATE PROFESSOR:
Edward C. Moran, *Chair*

ASSISTANT PROFESSOR:
Seth Redfield

RESEARCH ASSISTANT PROFESSOR:
Roy Kilgard

GRADUATE PROGRAM

The Astronomy Department offers graduate work leading to the degree of master of arts. The small size of the department permits individualized instruction and a close working relationship between students and faculty. Students are expected to become involved in the research programs of the department early in their graduate careers. They also are expected to select courses offered in the areas of observational and theoretical astronomy and astrophysics; a graduate student normally takes at least one 500-level astronomy course each semester. Additional courses in physics and mathematics are recommended according to individual student needs. Two years are usually necessary to complete requirements for the MA degree. However, the department also offers a five-year combined BA plus MA program for Wesleyan students. Eligible astronomy majors who complete their undergraduate requirements in four years can enroll for a fifth year and obtain a master's degree upon successful completion of one year of graduate course work and a thesis. Primary research activities in the department include mapping the local interstellar medium, probing the atmospheres of extrasolar planets, observations of young stars and protoplanetary disks, investigations of X-ray binary star systems, and studies of the massive black holes that reside at the centers of galaxies.

REQUIREMENTS FOR THE MASTER OF ARTS DEGREE

Courses. The student normally will enroll in at least one 500-level course in astronomy each semester and must complete ASTR521, 522, 531, and 532 (or their equivalents). These four courses make up the core of the astronomy curriculum and are similar in content to the 200-level courses of the same name but with some supplementary materials and special assignments. These supplements are designed especially for graduate students. A minimum of 10 credits, with grades of B- or better, is required for the MA degree. These may include two credits for research leading to the thesis, which is also required. The student may expect to take four to six courses in physics, mathematics, or other sciences after consultation with the faculty of the department. In addition, students are required to participate in the department's seminars on research and pedagogy in astronomy, which are offered each semester.

Admission to candidacy. To be admitted to candidacy, a student must take a written and oral qualifying examination demonstrating satisfactory understanding of several areas of astronomy, fundamental physics, and mathematics. This examination should be taken after the first year of study. If performance in this examination is not satisfactory, the student will either be asked not to continue or to repeat the examination.

Thesis and oral examination. Each candidate is required to write a thesis on a piece of original and publishable research carried out under the supervision of a faculty member. A thesis plan, stating the purpose and goals of the research, observational and other materials required, and uncertainties and difficulties that may be encountered, must be submitted to the department for approval after admission to candidacy. The thesis, in near-final form, must be submitted to the faculty at least one week prior to the scheduled oral examination. In this examination, the student must defend his or her work and must demonstrate a high level of understanding in the research area. The oral examination may touch on any aspect of the student's preparation. It is expected that the student will submit the results of his or her work to a research journal for publication.

General. The emphasis in the program is on research and scholarly achievement, but graduate students are expected to improve communication skills by classroom teaching, formal interaction with undergraduate students, and presenting talks to the observatory staff and to the community.

ASTR502 **Individual Tutorial, Graduate**

CREDIT: 1

ASTR503/504 **Selected Topics, Graduate Science**

ASTR521 **Galactic Astronomy**

IDENTICAL WITH: ASTR221 CREDIT: 1

ASTR522 **Modern Observational Techniques**

IDENTICAL WITH: ASTR222 CREDIT: 1

ASTR531 **Stellar Structure and Evolution**

IDENTICAL WITH: ASTR231 CREDIT: 1

ASTR532 **Extragalactic Astronomy and Cosmology**

IDENTICAL WITH: ASTR232 CREDIT: 1

ASTR589/590 **Advanced Research, BA/MA**

CREDIT: 1

ASTR591/592 **Advanced Research, Graduate**

CREDIT: 1



Biology

PROFESSORS:

David Bodznick
Ann Burke
Barry Chernoff, *Earth and
Environmental Sciences*
Frederick Cohan
J. James Donady
Laura B. Grabel
John Kirn
Janice Naegele
Sonia Sultan, *Chair*
Michael Weir

ASSOCIATE PROFESSORS:

Stephen Devoto
Michael S. Singer

ASSISTANT PROFESSOR:

Gloster B. Aaron Jr.

ADJUNCT ASSOCIATE PROFESSOR:

Laurel Appel, *McNair
Program Director*

GRADUATE PROGRAM

The Biology Department offers graduate work leading to the degree of doctor of philosophy. A master of arts degree may be awarded under certain conditions. The primary emphasis is on an intensive research experience culminating in a thesis, though the student will also be expected to acquire, through an individual program of courses, seminars, and readings, a broad knowledge of related biological fields. The low student-faculty ratio in the department ensures close contact between faculty and students. Faculty, invited outside speakers, and students offer regular research seminars and additional courses and lectures of interest offered by other departments are also available to biology students. All graduate students have the opportunity for some undergraduate teaching in favorable circumstances and with faculty supervision. Teaching assistants are involved primarily in preparing materials for, and assisting in, laboratory courses, tutoring, and evaluating student work. In the later years of the PhD program, a limited amount of classroom teaching may be offered to those qualified. Students are encouraged to spend a summer at the Marine Biological Lab in Woods Hole, Cold Spring Harbor labs, or another institution offering specialized graduate courses. Funds are available to support this work.

REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

The PhD is a research degree demanding rigorous scholarly training and creativity; the result is an original contribution to the candidate's field. The student and a faculty committee will work out a program of study for the first two years at the time of matriculation. This program will take into account the student's proposed field of interest and prior background in biology and related sciences. No specific courses are required but rather, a subject-matter requirement is used. Before taking the qualifying examination, all students must have at least one course above the introductory level (at Wesleyan or elsewhere) emphasizing a modern approach to each of the five broad areas: genetics/genomics/bioinformatics; evolution/ecology, physiology/neurobiology/behavior; cell biology/developmental biology; biochemistry/molecular biology. Students whose focus is bioinformatics may substitute two upper level courses in computer science for one of these 5 areas. All graduate students must take a minimum of two advanced-level (300 or 500) courses within the Biology Department. At least one of these should be taken during the student's first year. The adequacy of the courses that have been taken at other institutions will be evaluated by the faculty committee through its meeting with the student. Departmental and interdepartmental seminars will be included in the program, and additional individual reading in particular areas may also be required. First-year students are exposed to research in the department through usually two, occasionally three, one-semester lab rotations or research practica. Toward the end of each semester of the first year, each student will meet with an evaluation committee of the faculty to review progress and to discuss any modification of the proposed schedule.

A qualifying examination will be taken before the end of the second year. The examination is designed to test the student's knowledge of biology and ability to think critically. It includes a written research proposal, followed by an oral examination to discuss the proposal and evaluate the student's breadth in biology. The examination will be administered by four faculty members of the department (or associated departments), chosen by the student and his or her research advisor. The examining committee will include the research advisor and one member who does research in a field clearly outside the student's area of special interest.

The most important requirement is a PhD thesis, an original contribution to biology that merits publication. The candidate will receive advice and guidance from the thesis director but must demonstrate both originality and scientific competence. Normally, the candidate will choose a thesis topic during the second year of graduate work in consultation with appropriate faculty. A thesis committee of three members, chosen by the student and thesis advisor, will meet with the student and advisor at least twice a year to review progress. This committee determines when sufficient experimental work has been completed and must approve the final written document.

A minimum of three semesters as a teaching assistant is required.

BIOL210 Genomics: Modern Genetics, Bioinformatics, and the Human Genome Project

BIOL212 Principles and Mechanisms of Cell Biology

BIOL213 Behavioral Neurobiology

BIOL214 Evolution

BIOL216 Ecology

BIOL218 Developmental Biology

BIOL220 Conservation Biology

BIOL222 Issues in the Health Sciences

BIOL223 Integration of Clinical Experience and Life Science Learning

BIOL224 Hormones, Brain, and Behavior

BIOL227 Microscopic Cell Anatomy and Physiology

BIOL229 Geobiology Laboratory

BIOL231 Microbiology

BIOL232 Immunology

BIOL233 Geobiology

BIOL235 Comparative Vertebrate Anatomy

BIOL239 **Functional Anatomy of the Human Brain**

BIOL245 **Cellular Neurophysiology**

BIOL247 **Laboratory in Neurophysiology**

BIOL250 **Laboratory in Cell and Molecular Neurobiology**

BIOL254 **Comparative Animal Behavior**

BIOL265 **Bioinformatics Programming**

BIOL286 **Evolution in Human Altered Environments**

BIOL290 **Plant Form and Diversity**

BIOL306 **Tropical Ecology and the Environment**

BIOL312 **Conservation of Aquatic Ecosystems**

BIOL316 **Plant-Animal Interactions**

BIOL318 **Nature and Nurture: The Interplay of Genes and Environment**

BIOL320 **Quantitative Methods for the Biological and Environmental Sciences**

BIOL323 **Advanced Lab in Molecular Developmental Biology**

BIOL324 **Neuropharmacology**

BIOL325 **Stem Cells: Basic Biology to Clinical Application**

BIOL327 **Evolutionary and Ecological Bioinformatics**

BIOL333 **Gene Regulation**

BIOL337 **The Origins of Bacterial Diversity**

BIOL340 **Issues in Development and Evolution**

BIOL343 **Muscle and Nerve Development**

BIOL344 **Biological Structures**

BIOL345 **Developmental Neurobiology**

BIOL347 **Mammalian Cortical Circuits**

BIOL350 **Bioinformatics and Functional Genomics**

BIOL351 **Neurobiology of Learning and Memory**

BIOL465 **Education in the Field**

BIOL500 **Graduate Pedagogy**

IDENTICAL WITH: [ASTR500 OR CHEM500 OR E&ES500 OR MATH500 OR MB&B500 OR MUSC500 OR PHYS500 OR PSYC500] CREDIT: .5

BIOL501/502 **Individual Tutorial, Graduate**
CREDIT: 1

BIOL503/504 **Selected Topics, Graduate**
CREDIT: 1

BIOL505 **Cell and Development Journal Club I**
CREDIT: .25

BIOL506 **Cell and Development Journal Club II**
CREDIT: .25

BIOL507 **Evolution Journal Club I**
CREDIT: .25

BIOL508 **Evolution Journal Club II**
CREDIT: .25

BIOL509 **Neuroscience Journal Club I**
CREDIT: .25

BIOL510 **Neurosciences Journal Club II**
CREDIT: .25

BIOL511/512 **Group Tutorial, Graduate**
CREDIT: 1

BIOL516 **Plant-Animal Interactions**
IDENTICAL WITH: BIOL316 CREDIT: 1

BIOL518 **Nature and Nurture: The Interplay of Genes and Environment**

IDENTICAL WITH: BIOL318 CREDIT: 1

BIOL520 **Quantitative Methods for the Biological and Environmental Sciences**

IDENTICAL WITH: BIOL320 CREDIT: 1

BIOL524 **Neuropharmacology**

IDENTICAL WITH: BIOL324 CREDIT: 1

BIOL527 **Evolutionary and Ecological Bioinformatics**

IDENTICAL WITH: BIOL327 CREDIT: 1

BIOL533 **Gene Regulation**

IDENTICAL WITH: MB&B533

BIOL537 **The Origins of Bacterial Diversity**

IDENTICAL WITH: BIOL337 CREDIT: 1

BIOL540 **Issues in Development and Evolution**

IDENTICAL WITH: BIOL340 CREDIT: 1

BIOL543 **Muscle and Nerve Development**

IDENTICAL WITH: BIOL343 CREDIT: 1

BIOL544 **Biological Structures**

IDENTICAL WITH: BIOL344 CREDIT: 1

BIOL545 **Developmental Neurobiology**

IDENTICAL WITH: BIOL345 CREDIT: 1

BIOL550 **Bioinformatics and Functional Genomics**

IDENTICAL WITH: BIOL350 CREDIT: 1

BIOL557 **Advanced Research Seminars in Biology**
CREDIT: .25

BIOL589 **Advanced Research, BA/MA**
CREDIT: 1.5

BIOL590 **Advanced Research, BA/MA**
CREDIT: 1

BIOL591/592 **Advanced Research, Graduate**
CREDIT: 1

NS&B501 **Individual Tutorial, Graduate**
CREDIT: 1

NS&B502 **Individual Tutorial, Graduate**
CREDIT: .5

NS&B503 **Selected Topics, Graduate Science**
CREDIT: .25

NS&B524 **Neuropharmacology**
IDENTICAL WITH: BIOL324

NS&B543 **Muscle and Nerve Development**
IDENTICAL WITH: BIOL343

NS&B545 **Developmental Neurobiology**
IDENTICAL WITH: BIOL345

NS&B589 **Advanced Research, BA/MA**
CREDIT: 1.5

NS&B590 **Advanced Research, BA/MA**
CREDIT: 1

NS&B591/592 **Advanced Research, Graduate**
CREDIT: 1

Chemistry



PROFESSORS:

David Beveridge
Philip Bolton
Joseph W. Bruno,
Albert J. Fry
Joseph L. Knee, *Chair*
Stewart E. Novick
George Petersson
Rex Pratt
Wallace C. Pringle Jr.
Irina Russu

ASSOCIATE PROFESSORS:

Michael Calter
T. David Westmoreland

ASSISTANT PROFESSORS:

Brian Northrop
Erika Taylor

GRADUATE PROGRAM

The Department of Chemistry offers a graduate program leading to the degree in doctor of philosophy. Currently, the program has approximately 40 graduate students and 13 faculty members. The small size ensures that each student knows every faculty member and has the opportunity to become well acquainted with several areas of chemistry. A customized program of study is set up for each student, whose progress is monitored by a three-member faculty advisory committee.

Emphasis within the program is on developing skills for chemical research rather than on conforming to a uniform program of study. Course requirements, progress examinations, preparation and defense of research proposals, seminar presentation, and teaching assignments are all individualized with this goal in mind.

An excellent weekly seminar program affords an opportunity for students to hear and meet informally with a variety of outstanding speakers. In addition, the annual Peter A. Leermakers Symposium has brought eminent chemists from Europe, Asia, South America, and throughout the United States to Wesleyan for a day of intensive examination of a particular subject. Recent topics have been Chemical Insights into Viruses, Fullerenes: Progenitors and Sequels, Molecular Frontiers of AIDS Research, Extraterrestrial Chemistry and Biology, Atmospheric Chemistry and Climate in a Changing Global Environment, Where Chemistry Meets Art and Archaeology, Metals in Medicine, The Molecular Basis of Materials Science, and Challenges to Chemistry from Other Sciences.

REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

The degree of doctor of philosophy is awarded as the result of the demonstration of originality and scholarly achievement. It demands intensive specialization in one field as well as broad knowledge of related areas. (For specific, up-to-date details, please see the Department of Chemistry web site.)

- *Course requirements are intended to achieve two basic goals. (1) Acquisition of background knowledge. A central core of material is basic for all well-trained chemists. Therefore, graduate students are initially expected to develop or demonstrate knowledge of an appropriate one-semester course in each of the areas of organic chemistry, inorganic chemistry, biochemistry, physical chemistry, and quantum chemistry. (2) Continued scholarly growth. Graduate students are expected to take one course or its equivalent every semester. This may be a regular advanced course in chemistry or a related discipline, a seminar, or a tutorial designed to meet the special needs of an individual student.*
- *Progress examinations are given multiple times each academic year. Based on articles in the current literature, these examinations are designed to encourage graduate students to keep up with the latest developments in chemistry. In addition, they are a valuable tool for monitoring the expected steady growth of a student's ability to read the chemical literature critically as well as identifying any areas where he or she is deficient.*
- *Proposal writing is one of the most important parts of the entire graduate program in chemistry. Writing scientific proposals teaches evaluation of the literature, integration of knowledge from several areas, formulation of scientific questions, design of a research project to answer those questions, scientific writing, and the defense of a project proposal.*
- *Teaching skills and assisting duties are given to each student as a means of developing communication skills. As these develop, more responsible and demanding tasks will be assigned whenever possible.*
- *A one-hour seminar talk is expected of each student once a year. For first-year graduate students, this seminar will be scheduled in the second semester. In addition, there will be a number of shorter, less formal talks in classes, research group meetings, and special-interest discussion groups, all of which will contribute to a student's ability to work up, organize, and present a scientific topic.*
- *Languages are a useful part of the scientist's total knowledge in many ways. Therefore, a reading knowledge of at least one foreign language is required, as well as a demonstrated proficiency in modern computer techniques. The language requirement may be waived at the discretion of the committee.*
- *The thesis research and dissertation—an original contribution worthy of publication—is the single most important requirement. The candidate will have the opportunity to present his or her work in a talk at the departmental colloquium.*

CHEMICAL PHYSICS

GUIDING COMMITTEE: Lutz Hüwel, *Physics*; Joseph Knee, *Chemistry*; Stewart E. Novick, *Chemistry*; Brian Stewart, *Physics*

Beginning students in the chemistry or physics graduate programs may petition their department for admission to the interdisciplinary program in chemical physics. The philosophy underlying the program is that the solution to contemporary problems must increasingly be sought not within a single traditional specialty but from the application of different disciplines to particular problems. Students in the program will pursue a course of study and research that will familiarize them with both the Physics and Chemistry departments and, in particular, with those areas of overlapping interest that we broadly categorize as chemical physics.

REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

Students entering the program will choose an interdepartmental committee to oversee their progress toward the PhD degree. Students will still receive a PhD in either chemistry or physics.

- *Courses:* Chemical physics students will be expected to take courses from both departments. The core of the program of courses consists of quantum chemistry (offered by the Chemistry Department), quantum mechanics (offered by either department), electrodynamics (offered by the Physics Department), statistical mechanics (either department), and mathematical physics (Physics Department). For details of the course offerings, see the course listings under chemistry and physics.
- *Seminars:* Students will participate in the weekly chemical physics seminar series and will be expected to present at least one talk per year.
- *Examinations:* During the first two years, students will be examined on their general knowledge of chemical physics, including the current literature. In the second year, an oral exam will be given, based in part on an original research proposal. At this point, a formal decision will be made concerning whether to admit the student to candidacy for the PhD.
- *Research:* Students in chemical physics may do research under the direction of any member of either department. To aid the student in this selection and to sample the flavor of research activities in both departments, students will participate briefly in the research of each department. During the first year, students will rotate among as many as two research groups from each department, spending between four and six weeks in each group. It is anticipated that a student will be able to make a formal choice of a research advisor by the end of the first academic year at Wesleyan.

MOLECULAR BIOPHYSICS

GUIDING COMMITTEE: David L. Beveridge, *Chemistry*; Ishita Mukerji, *Molecular Biology and Biochemistry*

The Chemistry Department participates in an interdisciplinary program of graduate study in molecular biophysics with the Department of Molecular Biology and Biochemistry (MB&B) and the Department of Physics. The program provides a course of study and research that overlaps the disciplinary boundaries of chemistry, physics, biology, and molecular biology and is designed for students with undergraduate background in any one of these areas. Students in the program are enrolled in one of the participating departments and fulfill canonical requirements of the department. In addition, they take advanced courses in molecular biophysics and pursue dissertation research with one of the faculty in the program. Centerpieces of the program are the weekly interdepartmental journal club in molecular biophysics and the annual research retreat. Both activities bring together students, research associates, and faculty from all participating departments and foster interdisciplinary collaborative projects.

The molecular biophysics program receives special support from the National Institutes of Health (NIH) in the form of a training grant. The program is affiliated with interest groups such as the New York Structural Biology (NYSB) and the New York Bioinformatics and Computational Biology (NYBCB) groups. All students are encouraged to join and attend national meetings of the Biophysical Society.

Students interested in this program apply for admission to the Chemistry Department or to the other two participating departments. Application forms for these departments are available at www.wesleyan.edu/chem.

- CHEM301 Foundations of Molecular Biophysics**
IDENTICAL WITH: [MB&B301 OR CHEM509 OR MB&B509] CREDIT: 1
- CHEM307 Molecular Biophysics Journal Club I**
IDENTICAL WITH: [MB&B307 OR CHEM507 OR MB&B507] CREDIT: .5
- CHEM308 Molecular Biophysics Journal Club II**
IDENTICAL WITH: [MB&B308 OR CHEM508 OR MB&B508] CREDIT: .5
- CHEM314 Environmental Chemistry**
CREDIT: 1
- CHEM320 Scientific Research Ethics**
CREDIT: .5
- CHEM325 Introduction to Biomolecular Structure**
IDENTICAL WITH: MB&B325 CREDIT: 1
- CHEM337 Physical Chemistry I: Quantum Mechanics and Spectroscopy**
CREDIT: 1
- CHEM338 Physical Chemistry II: Thermodynamics, Statistical Mechanics, and Kinetics**
IDENTICAL WITH: CHEM538 CREDIT: 1
- CHEM340 Physical Chemistry IV: Advanced Quantum Chemistry**
CREDIT: 1
- CHEM341 Physical Chemistry IVB: Quantum Chemistry**
CREDIT: .5
- CHEM345 Molecular Spectroscopy**
CREDIT: 1
- CHEM352 Applications of Electrochemistry**
CREDIT: .5
- CHEM353 Applications of Spectroscopic Methods in Organic Chemistry**
CREDIT: .5
- CHEM357 Bio-Organic Chemistry**
CREDIT: 1
- CHEM358 Structure and Mechanism**
CREDIT: 1
- CHEM359 Advanced Organic Synthesis**
CREDIT: 1
- CHEM361 Advanced Inorganic Chemistry**
CREDIT: 1
- CHEM363 Organometallic Chemistry**
CREDIT: 1
- CHEM375 Integrated Chemistry Laboratory I**
CREDIT: 1
- CHEM376 Integrated Chemistry Laboratory II**
CREDIT: 1
- CHEM381 Physical Chemistry for the Life Sciences**
IDENTICAL WITH: MB&B381
- CHEM382 Practical NMR**
IDENTICAL WITH: MB&B382 CREDIT: 1
- CHEM383 Biochemistry**
IDENTICAL WITH: MB&B383 CREDIT: 1
- CHEM385 Enzyme Kinetics**
IDENTICAL WITH: MB&B385 CREDIT: .5
- CHEM386 Biological Thermodynamics**
IDENTICAL WITH: MB&B386 CREDIT: 1
- CHEM387 Enzyme Mechanisms**
IDENTICAL WITH: MB&B387 CREDIT: .5
- CHEM388 Molecular Dynamics and Molecular Modeling**
CREDIT: 1
- CHEM395 Structural Biology Laboratory**
IDENTICAL WITH: MB&B395
- CHEM399 Introduction to Nanotechnology and Micro-Fabrication**
CREDIT: 1
- CHEM500 Graduate Pedagogy**
IDENTICAL WITH: BIOL500
- CHEM501/502 Individual Tutorial, Graduate**
CREDIT: 1
- CHEM503/504 Selected Topics, Graduate Science**
CREDIT: 1
- CHEM507 Molecular Biophysics Journal Club I**
IDENTICAL WITH: CHEM307
- CHEM508 Molecular Biophysics Journal Club II**
IDENTICAL WITH: CHEM308
- CHEM509 Foundations of Molecular Biophysics**
IDENTICAL WITH: CHEM301
- CHEM511/512 Group Tutorial, Graduate**
CREDIT: 1
- CHEM519 Structural Mechanisms of Protein-Nucleic Acid Interactions**
IDENTICAL WITH: MB&B519 CREDIT: .5
- CHEM521 Chemistry Symposia I**
CREDIT: .25
- CHEM522 Chemistry Symposia II**
CREDIT: .25
- CHEM538 Physical Chemistry II: Thermodynamics, Statistical Mechanics, and Kinetics**
IDENTICAL WITH: CHEM338 CREDIT: 1
- CHEM540 Physical Chemistry IV: Advanced Quantum Chemistry**
CREDIT: 1
- CHEM541 Physical Chemistry IV: Quantum Chemistry**
CREDIT: .5
- CHEM547 Seminar in Chemical Physics**
IDENTICAL WITH: PHYS587 CREDIT: .25
- CHEM548 Seminar in Chemical Physics**
IDENTICAL WITH: PHYS588
- CHEM557 Seminar in Organic and Inorganic Chemistry**
CREDIT: .25
- CHEM558 Seminar in Organic and Inorganic Chemistry**
CREDIT: .25
- CHEM561/562 Graduate Field Research**
CREDIT: 1
- CHEM587 Seminar in Biological Chemistry**
IDENTICAL WITH: MB&B587 CREDIT: .25
- CHEM588 Seminar in Biological Chemistry**
IDENTICAL WITH: MB&B588 CREDIT: .25
- CHEM589 Advanced Research, BA/MA**
CREDIT: 1.5
- CHEM590 Advanced Research, BA/MA**
CREDIT: 1
- CHEM591/592 Advanced Research, Graduate**
CREDIT: 1

Earth and Environmental Sciences

PROFESSORS:

Barry Chernoff, *Shumann Professor of Environmental Studies*

Peter C. Patton, *Chair*

Johan C. Varekamp, *Stearns Professor of Earth Science*

ASSOCIATE PROFESSORS:

Martha Gilmore

Timothy Ku

Suzanne O'Connell

ASSISTANT PROFESSORS:

Phillip Resor

Dana Royer

RESEARCH PROFESSOR:

Ellen Thomas

RESEARCH ASSOCIATE PROFESSOR:

James P. Greenwood



GRADUATE PROGRAM

The Department of Earth and Environmental Sciences (E&ES) offers a program leading to the degree of master of arts in E&ES. Graduate students are provided with a unique opportunity for accelerated and personal instruction in a small department setting that is well equipped, with strengths in geology, volcanology, geochemistry, paleoclimatology, coastal studies, planetary science, and environmental science.

REQUIREMENTS FOR THE MASTER OF ARTS DEGREE

Courses. Students who possess the equivalent of a Wesleyan E&ES BA degree are required to take six upper-level course credits (of which at least four must be in E&ES) and two MA thesis research credits (E&ES591, 592). In addition, one year of each of any three of the following are required: mathematics, chemistry, physics, and biology. Students who do not possess the equivalent of a Wesleyan E&ES BA degree must complete or have completed 11 upper-level courses in the sciences or mathematics, and at least five of these must be E&ES courses.

All full-time graduate students are expected to complete a minimum of four courses during their first year with a grade of B- or better. Failure to achieve these minimal expectations incurs automatic dismissal from the program. The culmination of the MA program is the completion and acceptance of a thesis, and its successful oral defense.

REQUIREMENTS FOR ADMISSION

To be admitted to the E&ES graduate program, a student must have a B- average or higher in their E&ES major. Students with strong BA degrees in other sciences are also encouraged to apply. Applicants are required to have taken the Graduate Record Examination (GRE). Foreign students should have taken the Test of English as a Foreign Language (TOEFL).

FINANCIAL ASSISTANCE

A limited number of university assistantships are available, whereas some students may be supported by faculty grants and/or special funds.

AREAS OF FACULTY SPECIALIZATION

BARRY CHERNOFF: fish ecology, morphometrics, research areas: S. America, Connecticut. **MARTHA GILMORE:** geomorphology, planetary sciences, remote sensing; research areas: Mars, Venus, Long Island Sound, Connecticut. **JIM GREENWOOD:** cosmochemistry, geomicrobiology; research areas: Santa Lucia, solar system. **TIM KU:** biogeochemistry, isotope geochemistry; research areas: coastal Florida, Panama and Puerto Rico, North America soils and lakes. **SUZANNE O'CONNELL:** coastal geology, paleoceanography, climate change; research areas: Puerto Rico, Southern Ocean, Connecticut. **PETER PATTON:** geomorphology, hydrology, research areas; Connecticut, Long Island Sound. **PHIL RESOR:** structural geology, neotectonics, fault and earthquake mechanics; research areas: Guadalupe Mts., Grand Canyon, Greece. **DANA ROYER:** paleoclimatology, leaf shape analyses, paleoecology; research areas: Wyoming, Connecticut. **ELLEN THOMAS:** micropaleontology, paleoclimatology, research areas: the oceans, Long Island Sound. **JOHAN (JOOP) C. VAREKAMP:** geochemistry, volcanology, paleoenvironmental research; research areas: the Andes, Greece, Indonesia, Long Island Sound, Connecticut.

GRADUATE COURSES

E&ES500 **Graduate Pedagogy**
CREDIT: .5

E&ES505 **Astrobiology**
CREDIT: 1

E&ES506 **Sedimentology and Stratigraphy**
CREDIT: 1

E&ES507 **Soils**
CREDIT: 1

E&ES514 **Hot Rocks—Petrogenesis of Igneous and Metamorphic Rocks**
CREDIT: 1

E&ES517 **Hydrology**
CREDIT: 1

E&ES520 **Statistical Methods for the Biological and Environmental Sciences**
CREDIT: 1.00

E&ES522 **Introduction to GIS**
CREDIT: 1.00

E&ES525 **Isotope Geochemistry: Tracers of Environmental Processes**
CREDIT: 1.00

E&ES526 **Remote Sensing**
CREDIT: 1.00

E&ES559 **Global Climate Change**
CREDIT: 1.00

E&ES571 **Planetary Geology Seminar**
CREDIT: 1.00

E&ES580 **Volcanology**
CREDIT: 1.00

E&ES591/592 **Advanced Research, Graduate**
CREDIT: 1

Mathematics and Computer Science

PROFESSORS OF MATHEMATICS:

Karen Collins
Adam Fieldsteel
Mark Hovey, *Chair*
Michael S. Keane
Philip H. Scowcroft
Carol Wood

ASSOCIATE PROFESSORS:

Petra Bonfert-Taylor
Wai Kiu Chan
David J. Pollack
Edward Taylor

ASSISTANT PROFESSORS:

Constance Leidy
Christopher Rasmussen

PROFESSORS OF COMPUTER SCIENCE:

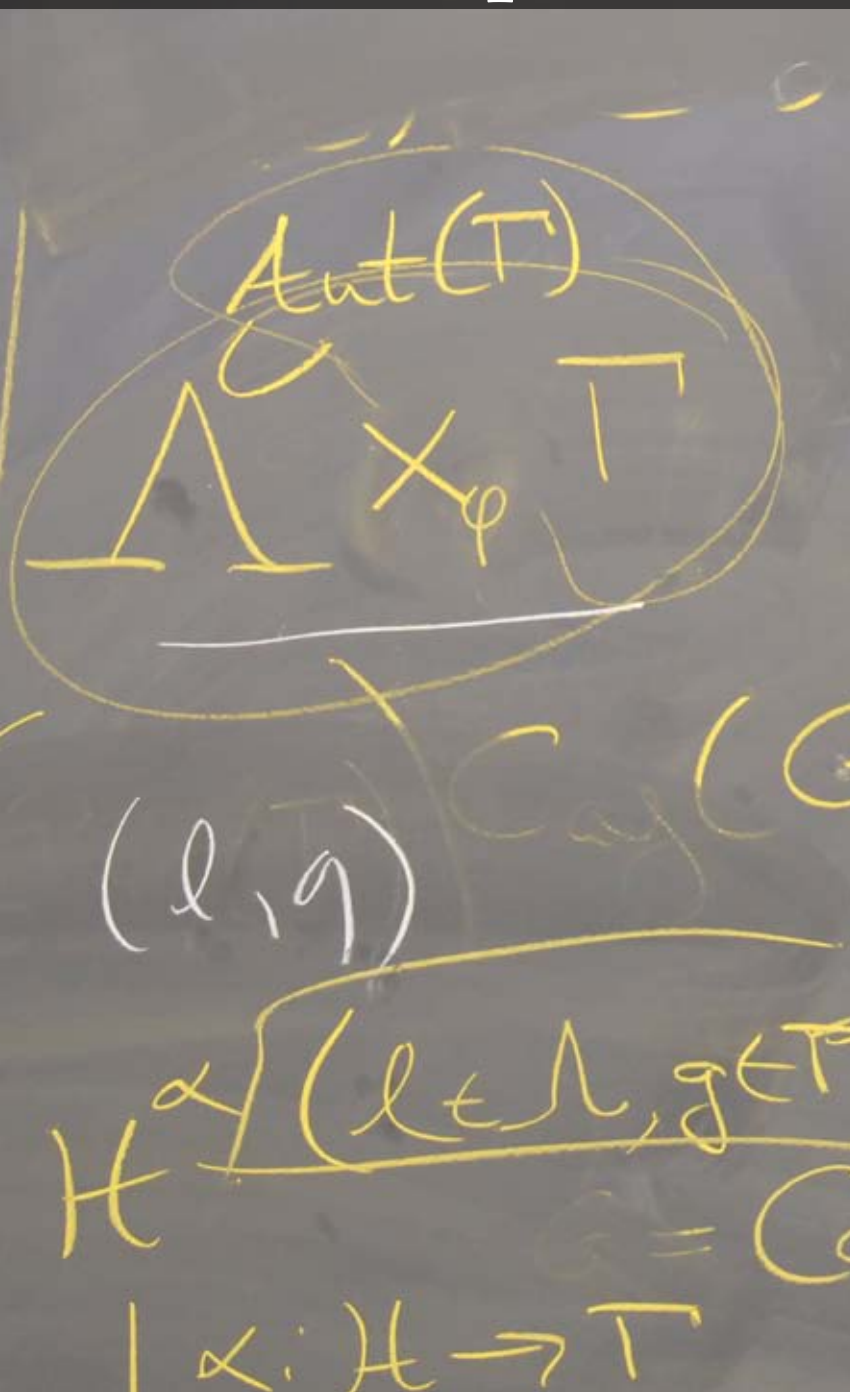
Daniel Krizanc
Michael Rice

ASSOCIATE PROFESSORS:

Norman Danner, *Vice Chair*
James Lipton

ASSISTANT PROFESSOR:

Eric Aaron



GRADUATE PROGRAM

The department's graduate programs include a PhD program in mathematics and MA programs in mathematics and in computer science. The research emphasis at Wesleyan at the doctoral level is in pure mathematics and theoretical computer science. One of the distinctive features of our department is the close interaction between the computer science faculty and the mathematics faculty, particularly those in logic and discrete mathematics.

Among possible fields of specialization for PhD candidates are algebraic topology, analysis of algorithms, categorical algebra, combinatorics, complex analysis, computational logic, data mining, ergodic theory, geometric analysis, graph theory, homological algebra, Kleinian groups and discrete groups, knot theory, logic programming, mathematical physics, model theory, model-theoretic algebra, number theory, operator algebras, probability theory, proof theory, topological dynamics, and topological groups.

Graduate students at Wesleyan enjoy small, friendly classes and close interactions with faculty and fellow graduate students. Graduate students normally register for three classes a semester and are expected to attend departmental colloquia and at least one regular seminar. The number of graduate students ranges from 18 to 22, with an entering class of three to six each year. There have always been both male and female students, graduates of small colleges and large universities, and United States and international students, including, in recent years, students from China, Germany, Hungary, India, Korea, Mexico, Peru, and Poland. All of the department's recent PhD recipients have obtained faculty positions. Some of these have subsequently moved to mathematical careers in industry and government.

REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

The doctor of philosophy degree demands breadth of knowledge, an intense specialization in one field, a substantial original contribution to the field of specialization, and a high degree of expository skill. The formal PhD requirements consist of the following:

Courses. At least 16 one-semester courses are required for the PhD degree. Several of the courses are to be in the student's field of specialization, but at least three one-semester courses are to be taken in each of the three areas: algebra, analysis, and topology. In particular, first-year students are expected to take the three two-semester sequences in these areas. However, students interested in computer science may replace course work in one of these areas with course work in computer science, with the permission of the departmental Graduate Education Committee. One of the 16 courses must be in the area of logic or discrete mathematics, as construed by the departmental Graduate Education Committee.

Language examinations. It is strongly recommended that PhD candidates have or acquire a knowledge of French, German, and Russian sufficient for reading the mathematical literature in these three languages. Knowledge of two of these three languages is required.

General preliminary examinations. The general preliminary examinations occur in the summer after the candidate's first year of graduate study and cover algebra, analysis, and topology (or computer science, in the case of students including this option among their three first-year subjects).

Special preliminary examination. The special preliminary examination should occur during the candidate's third year of graduate work. The candidate is expected to exhibit sufficient mastery of the chosen specialty to be qualified to begin research leading to a doctoral dissertation under a faculty thesis advisor. The candidate demonstrates this mastery by giving a lecture on a topic, chosen in consultation with an advisor. A faculty committee evaluates the candidate's performance.

Dissertation. The dissertation, to be written by the PhD candidate under the counsel and encouragement of the thesis advisor, must contain a substantial original contribution to the field of specialization of the candidate and must meet standards of quality as exemplified by the current research journals in mathematics.

Defense of dissertation. The final examination is an oral presentation of the dissertation in which the candidate is to exhibit an expert command of the thesis and related topics and a high degree of expository skill.

Four to five years are usually needed to complete all requirements for the PhD degree, and two years of residence are required. It is not necessary to obtain the MA degree en route to the PhD degree. Recently, some students have obtained the MA in computer science and the PhD in mathematics. Any program leading to the PhD degree must be planned in consultation with the departmental Graduate Education Committee.

REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS

The requirements for the master of arts degree are designed to ensure a basic knowledge and the capacity for sustained independent scholarly study. The formal MA requirements consist of the following:

Courses. Six one-semester graduate courses in addition to the research units MATH591 and 592 or COMP591 and 592 are required for the MA degree. The choice of courses will be made in consultation with the departmental Graduate Education Committee.

Thesis. The thesis is a written report of a topic requiring an independent search and study of the mathematical literature. Performance is judged largely on scholarly organization of existing knowledge and on expository skill, but some indications of original insight are expected.

Final examination. The final examination is an oral presentation of the MA thesis, in which the candidate is to exhibit an expert command of the chosen specialty and a high degree of expository skill. The oral presentation may include an oral exam on the material in the first-year courses. A faculty committee evaluates the candidate's performance. Three semesters of full-time study beyond an undergraduate degree are usually needed to complete all requirements for the MA degree. Any program leading to the MA degree must be planned in consultation with the departmental Graduate Education Committee.

MATHEMATICS

MATH500 **Graduate Pedagogy**

IDENTICAL WITH: BIOL500

MATH501/502 **Individual Tutorial, Graduate**

CREDIT: 1

MATH503/504 **Selected Topics, Graduate Science**

CREDIT: 1

MATH507 **Topics in Combinatorics**

CREDIT: 1

MATH509 **Model Theory**

CREDIT: 1

MATH511/512 **Group Tutorial, Graduate**

CREDIT: 1

MATH513 **Analysis I**

CREDIT: 1

MATH515 **Analysis II**

CREDIT: 1

MATH523 **Topology I**

CREDIT: 1

MATH525 **Topology II—Topics in Topology**

CREDIT: 1

MATH526 **Topology II**

CREDIT: 1

MATH543 **Algebra I**

CREDIT: 1

MATH545 **Algebra II: Topics in Algebra**

CREDIT: 1

MATH546 **Algebra II**

CREDIT: 1

MATH553 **Logic and Discrete Mathematics**

CREDIT: 1

MATH554 **Logic and Discrete Mathematics**

IDENTICAL WITH: COMP555 CREDIT: 1

MATH572 **Special Topics in Mathematics**

CREDIT: 1

MATH589/590 **Advanced Research, BA/MA**

CREDIT: 1.5

MATH591/592 **Advanced Research, Graduate**

CREDIT: 1

COMPUTER SCIENCE

COMP500 **Automata Theory and Formal Languages**

IDENTICAL WITH: COMP301 CREDIT: 1

COMP501/502 **Individual Tutorial, Graduate**

CREDIT: 1

COMP510 **Algorithms and Complexity**

IDENTICAL WITH: COMP312 CREDIT: 1

COMP511/512 **Group Tutorial, Graduate**

CREDIT: 1

COMP521 **Design of Programming Languages**

IDENTICAL WITH: COMP321 CREDIT: 1

COMP522 **Compilers**

IDENTICAL WITH: COMP322 CREDIT: 1

COMP527 **Evolutionary and Ecological Bioinformatics**

IDENTICAL WITH: BIOL327

COMP531 **Computer Structure and Operation**

IDENTICAL WITH: COMP231 CREDIT: 1

COMP550 **Bioinformatics and Functional Genomics**

IDENTICAL WITH: BIOL350

COMP554 **Principles of Databases**

IDENTICAL WITH: COMP354 CREDIT: 1

COMP555 **Logic and Discrete Mathematics**

IDENTICAL WITH: MATH554

COMP571 **Special Topics in Computer Science**

CREDIT: 1

COMP572 **Special Topics in Computer Science**

CREDIT: 1

COMP591/592 **Advanced Research, Graduate**

CREDIT: 1

Molecular Biology and Biochemistry



PROFESSORS:

Ishita Mukerji
Donald Oliver

ASSOCIATE PROFESSORS:

Manju Hingorani
Scott Holmes
Robert Lane
Michael McAlear, *Chair*

ASSISTANT PROFESSORS:

Amy MacQueen
Rich Olson

GRADUATE PROGRAM

The MB&B Department supports a graduate program with emphasis in molecular genetics, molecular biology, biochemistry, and molecular biophysics. The MB&B graduate program is designed to lead to the degree of doctor of philosophy. A master of arts degree is awarded only under special circumstances. There are currently 20 graduate students in the department, and the graduate program is an integral part of the department offerings. Graduate students serve as teaching assistants in undergraduate courses. The emphasis of the program is on an intensive research experience culminating in a dissertation. The program of study also includes a series of courses covering the major areas of molecular biology, biochemistry, and biophysics; journal clubs in which current research is discussed in an informal setting; practica designed to introduce first-year students to the research interests of the faculty; and several seminar series in which distinguished outside speakers participate. The low student-faculty ratio (2.5:1) allows programs to be individually designed and ensures close contact between the student and the faculty. A certificate in molecular biophysics supported by a training grant from the National Institutes of Health is available for students with interest in both the physical and life sciences (www.wesleyan.edu/registrar/catalog/cmbt.htm).

REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

Courses. Ideally, incoming students will have completed courses in general biology, cell and molecular biology, genetics, biochemistry, general chemistry, organic chemistry, physical chemistry, calculus, and a computer language. Deficiencies in any of these areas would normally be made up in the first year. A core curriculum of graduate courses in the following areas is given on a two-year cycle: nucleic acid structure, regulation of gene expression, structural mechanisms and energetics of protein-nucleic-acid interactions, protein structure and folding, protein trafficking in cells, physical techniques, molecular genetics, the cell cycle, biological spectroscopy, and molecular, biochemical, and cellular bases of cancer and other human diseases. Additional graduate course electives are also available. Within this general framework, individual programs of study tailored to fit the student's background and interests are designed in consultation with the graduate committee and the student's advisor.

Qualifying examinations. The criteria for admission to candidacy for the PhD will be performance in courses, aptitude for research, a written qualifying examination at the end of the third semester, and the oral defense of an original research proposal by the middle of the fourth semester.

Teaching. Normally, three to four semesters of teaching are required.

Research interests of the department. Control of DNA replication; chromosome dynamics in meiosis; mechanism of protein secretion; global regulation of ribosomal biogenesis in the yeast *S. cerevisiae*; mechanisms of DNA replication and repair; protein-protein and protein-nucleic-acid interactions; the structural dynamics of nucleic acids and proteins; chromosome structure and gene expression; nuclear magnetic resonance and UV resonance Raman spectroscopy of biological macromolecules; biological assembly mechanisms; protein fiber formation in disease; enzyme mechanisms; the mammalian olfactory system; and elucidation of membrane protein function by X-ray crystallography.

MOLECULAR BIOPHYSICS

The departments of Chemistry and Molecular Biology and Biochemistry offer an interdepartmental certificate in molecular biophysics (www.wesleyan.edu/registrar/catalog/cmbt.htm) supported by a training grant from the National Institutes of Health. This program is designed to prepare students for research and careers that combine interests in the physical and life sciences. Interested students are encouraged to consult Manju Hingorani or Ishita Mukerji in the MB&B Department or David Beveridge or Irina Russu in the Chemistry Department.

MB&B500 Graduate Pedagogy

IDENTICAL WITH: BIOL500

MB&B501/502 Individual Tutorial, Graduate

CREDIT: 1

MB&B503/504 Selected Topics, Graduate Science

CREDIT: .25

MB&B505 Mechanisms of DNA Damage and Repair

IDENTICAL WITH: MB&B305 CREDIT: 1

MB&B506 Self-Perpetuating Structural States in Biology, Genetics, and Disease

IDENTICAL WITH: MB&B306 CREDIT: 1

MB&B507 Molecular Biophysics Journal Club I

IDENTICAL WITH: CHEM307

MB&B508 Molecular Biophysics Journal Club II

IDENTICAL WITH: CHEM308

MB&B509 Foundations of Molecular Biophysics

IDENTICAL WITH: CHEM301

MB&B510 Mechanisms of Protein Trafficking Within Eukaryotes

IDENTICAL WITH: MB&B310 CREDIT: .5

MB&B511/512 Group Tutorial, Graduate

CREDIT: .25

MB&B513 Molecular, Proteomic, and Cell Biological Analysis of Telomere Composition and Function

IDENTICAL WITH: MB&B313 CREDIT: .5

MB&B514 Mechanisms of Chromosome Segregation

IDENTICAL WITH: MB&B314 CREDIT: 1

MB&B515 The Regulation of Ribosome Biosynthesis

IDENTICAL WITH: MB&B315 CREDIT: 1

MB&B518 The Molecular Biology of Ribosome Biogenesis and Function

IDENTICAL WITH: MB&B318 CREDIT: 1

MB&B519 Structural Mechanisms of Protein-Nucleic Acid Interactions

IDENTICAL WITH: CHEM519

MB&B522 Mechanisms of Protein Trafficking Within Prokaryotes

IDENTICAL WITH: MB&B322 CREDIT: .5

MB&B528 Topics in Eukaryotic Genetics: Transcription

IDENTICAL WITH: MB&B328 CREDIT: .5

MB&B530 Molecular and Cellular Basis of Human Diseases

IDENTICAL WITH: MB&B330 CREDIT: 1

MB&B533 Gene Regulation

IDENTICAL WITH: [MB&B333 OR BIOL533 OR BIOL333]

CREDIT: 1

MB&B537 Molecular Basis of Pathogenicity

IDENTICAL WITH: MB&B337 CREDIT: 1

MB&B550 Bioinformatics and Functional Genomics

IDENTICAL WITH: BIOL350

MB&B557 Research Seminars in Molecular Biology

CREDIT: .25

MB&B558 Research Seminars in Molecular Biology

CREDIT: .25

MB&B575 The Cell-Division Cycle and Cancer

IDENTICAL WITH: MB&B375 CREDIT: 1

MB&B581 Physical Chemistry for the Life Sciences

IDENTICAL WITH: MB&B381 CREDIT: 1

MB&B585 Seminar in Molecular Biology

IDENTICAL WITH: MB&B285 CREDIT: .25

MB&B586 Seminar in Molecular Biology

IDENTICAL WITH: MB&B286 CREDIT: .25

MB&B587/588 Seminar in Biological Chemistry

IDENTICAL WITH: CHEM587/588

MB&B589/590 Advanced Research, BA/MA

CREDIT: 1.5

MB&B591/592 Advanced Research, Graduate

CREDIT: 1



Music

PROFESSORS:

Anthony Braxton
Neely Bruce
Alvin A. Lucier
Mark Slobin

ASSOCIATE PROFESSORS:

Jane Alden
Eric Charry
Su Zheng, *Chair*

ASSISTANT PROFESSOR:

Yonatan Malin

ADJUNCT PROFESSORS:

Abraham Adzenyah
Angel Gil-Ordóñez
Ronald Kuivila
Sumarsam

ADJUNCT ASSOCIATE PROFESSOR:

Jay Hoggard

ADJUNCT ASSISTANT PROFESSOR:

B. Balasubrahmanian

ARTISTS-IN-RESIDENCE:

I. Harjito
David Nelson

GRADUATE PROGRAM IN WORLD MUSIC

The World Music Program offers degrees at both the master's and doctoral levels. The MA in music has concentrations in scholarship (ethnomusicology/musicology), experimental music/composition, and performance. The PhD is in ethnomusicology only. Many musics are represented by faculty members through teaching and performing African American, Indonesian, West African, Caribbean, East Asian, South Indian (Karnatak), Euro-American and experimental music, and there are many opportunities for individual and ensemble study/performance.

REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS

Courses. A total of 11 credits of course work. Students are required to take the Graduate Proseminar in World Music Studies (MUSC510); four graduate seminars other than 510 (two in the area of concentration); two performance courses; a course outside the department; a two-semester thesis tutorial (MUSC591/592); and four semesters of the Music Department Colloquium.

Language. One foreign language is required for the MA. All incoming students are required to take the language examination administered by the department at the beginning of their first term.

Thesis and defense. The thesis must constitute an archivable product displaying mastery of—and an original contribution to—the understanding of an aspect of world music. The MA thesis may follow various formats and modes of musical investigation, but performance per se does not constitute a thesis without substantial, written ancillary materials. Work such as bibliographies, translations, and journals do not normally constitute theses. After completing all department requirements and acceptance of the thesis by the committee, the candidate is scheduled for an oral thesis defense administered by the committee.

REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

Courses. Satisfactory completion of courses totaling at least 14 credits. Students are required to take two core seminars (MUSC519, 521), six graduate-level seminars other than the core seminars (two of which may be satisfied with appropriate courses already taken at the master's level), two credits of performance (in different musics), one course outside the department, two credits of thesis tutorial (MUSC591/592), and four semesters of the Music Department Colloquium.

Language. Two foreign languages are required for the PhD: one field language and one research language or two research languages. All incoming students are required to take the language examination administered by the department at the beginning of their first term.

Qualification. At the conclusion of the second year in residence, students take a qualifying examination consisting of a set of essays and a follow-up oral examination.

Dissertation and defense. The dissertation must constitute an archivable product displaying mastery of—and an original contribution to—the understanding of an aspect of world music. After completing all department requirements and acceptance of the dissertation by the committee, the candidate is scheduled for an oral dissertation defense administered by the committee.

MUSC500 **Graduate Pedagogy**

IDENTICAL WITH: BIOL500

MUSC501/502 **Individual Tutorial, Graduate**

Topic to be arranged in consultation with the tutor.

CREDIT: 1

MUSC503/504 **Selected Topics, Graduate Science**

CREDIT: 1

MUSC506 **Reading Ethnomusicology**

CREDIT: 1

MUSC507 **Practicing Ethnomusicology**

CREDIT: 1

MUSC508 **Graduate Seminar in Composition**

CREDIT: 1

MUSC509 **Special Studies in Contemporary Music**

CREDIT: 1

MUSC510 **Graduate Proseminar in World Music Studies**

CREDIT: 1

MUSC511/512 **Group Tutorial, Graduate**

CREDIT: 1

MUSC513 **Improvisation in Cross-Cultural Perspective**

CREDIT: 1

MUSC516 **Seminar in Indonesian Music**

CREDIT: 1

MUSC519 **Current Issues in Ethnomusicology**

CREDIT: 1

MUSC520 **Explorations in Musicology**

CREDIT: 1

MUSC521 **Seminar in Interdisciplinary Studies**

CREDIT: 1

MUSC522 **Seminar in Comparative Music Theory**

CREDIT: 1

MUSC530 **Music Department Colloquium**

CREDIT: .25

MUSC561 **Graduate Field Research**

CREDIT: 1

MUSC563/564 **Field Research/Academic Education**

CREDIT: 1

MUSC591/592 **Advanced Research, Graduate**

CREDIT: 1

ADDITIONAL COURSES

Graduate students may choose to take any of the following undergraduate courses, when offered.


- MUSC201 **Tonal Harmony**
MUSC202 **Theory and Analysis**
MUSC203 **Chromatic Harmony**
MUSC204 **20th-Century Compositional Techniques**
MUSC210 **Theory of Jazz Improvisation**
MUSC212 **South Indian Music—*Solkattu***
MUSC220 **Composing, Performing, and Listening to Experimental Music**
MUSC222 **Computers in Music**
MUSC223 **Music, Recording, and Sound Design**
MUSC241 **Medieval and Renaissance Music**
MUSC242 **Baroque and Classical Music**
MUSC243 **Music of the 19th Century**
MUSC244 **Music of the 20th Century**
MUSC246 **Opera**
MUSC250 **Film and Folk Music of India**
MUSC261 **Music and Modernity in China, Japan, and Korea**
MUSC265 **African Presences I: Music in Africa**
MUSC266 **African Presences II: Music in the Americas**
MUSC270 **Music of Coltrane, Mingus, and Coleman**
MUSC271 **Music of Lennie Tristano, Miles Davis, and Max Roach**
MUSC274 **Hymnody in the United States Before the Civil War**
MUSC280 **Sociology of Music in Social Movements**
MUSC290 **How Ethnomusicology Works**
MUSC291 **The Gendering of Music in Cross-Cultural Perspective**
MUSC293 **Music of Sun Ra and Karleinz Stockhausen**
MUSC297 **Race, Place, and Popular Music in the United States, 1865–2006**
MUSC298 **Jewish Musical Worlds**
MUSC299 **Music Analysis, Interpretation, and Creativity**
MUSC300 **Seminar for Music Majors**
MUSC304 **Arranging and Composing for Jazz Orchestra**
MUSC308 **Composition in the Arts**
MUSC405 **Private Music Lessons for Nonmusic Majors**
MUSC406 **Private Music Lessons for Declared Music Majors**
MUSC425 **Introduction to *Taiko* (Japanese Drumming)**
MUSC426 **Korean Drumming Ensemble—Beginning**
MUSC427 **Yiddish Music/Klezmer Band**
MUSC428 **Chinese Music Ensemble**
MUSC429 **Korean Drumming Ensemble—Advanced**
MUSC430 **South Indian Voice—Beginning**
MUSC431 **South Indian Voice—Intermediate**
MUSC432 **South Indian Voice—Advanced**
MUSC433 **South Indian Music—Percussion**

- MUSC434 **Improvisational Techniques in South Indian Music**
MUSC435 **Choral Singing: Wesleyan Concert Choir**
MUSC436 **Choral Singing: Wesleyan Singers**
MUSC438 **Wesleyan University Collegium Musicum**
MUSC439 **Wesleyan University Orchestra**
MUSC440 **Conducting: Instrumental and Vocal**
MUSC441 **Pipe Organ in Theory and Practice, from Sanctuary to Stage: A Performance—Based Examination of Music**
MUSC442 **Chamber Music Ensemble**
MUSC443 **Wesleyan Wind Ensemble (WesWinds)**
MUSC444 **Opera and Oratorio Ensembles**
MUSC445 **West African Music and Culture—Beginners**
MUSC446 **West African Music and Culture—Intermediate**
MUSC447 **West African Music and Culture—Advanced**
MUSC448 **Ebony Singers: Gospel Music**
MUSC449 **Mande Music Ensemble**
MUSC450 **Steel Band**
MUSC451 **Javanese Gamelan—Beginners**
MUSC452 **Javanese Gamelan—Advanced**
MUSC453 **Cello Ensemble**
MUSC454 **Classical Guitar Ensemble**
MUSC455 **Jazz Ensemble**
MUSC456 **Jazz Improvisation Performance**
MUSC457 **Jazz Orchestra I**
MUSC458 **Jazz Orchestra II**
MUSC459 **Materials and Principles of Jazz Improvisation I**
MUSC460 **Materials and Principles of Jazz Improvisation II**
MUSC465/456 **Education in the Field**
MUSC470 **Independent Study, Undergraduate**

PRIVATE-LESSONS TEACHERS:

- Pheeroan Aklafl, *Drums*
John Banker, *Tuba/Trombone*
Garrett Bennett, *Bassoon/Sax*
Carver Blanchard, *Guitar/Lute*
Eugene Bozzi, *Percussion/Drums*
Nancy Brown, *Classical Trumpet*
Susan Burkhart, *Guitar*
Taylor Ho Bynum, *Jazz Trumpet*
Edwin Cedeno, *Conga Drum*
Susan Cheng, *Chinese Instruments*
Cem Duruoz, *Guitar*
Craig Edwards, *Fiddle*
Perry Elliot, *Violin*
Priscilla Gale, *Voice*
Giacomo Gates, *Jazz Vocals*
Peter Hadley, *Didjeridu*
Robert Hoyle, *French Horn*
Kyung Hee Kang, *Korean Drumming*
Larry Lipnik, *Viol, Recorder, and Early Music Performance*
Qi Liu, *Piano*
Tony Lombardoizzi, *Jazz/Blues Guitar*
Sarah Meneely-Kyder, *Piano*
Lisa Moore, *Piano*
Julie Ribchinsky, *Cello*
Wayne Rivera, *Voice*
Erika Schroth, *Piano*
Stan Scott, *Banjo/Mandolin/Hindustani Vocal*
Megan Sesma, *Harp*
Fred Simmons, *Jazz Piano*
Peter Standaart, *Flute*
Charlie Suriyakham, *Clarinet*
Libby Van Cleve, *Oboe*
Wang Guowei, *Erhu*
Marvin Warshaw, *Viola*
Roy Wiseman, *Bass*
Chai-Lun Yueh, *Voice*

Physics



PROFESSORS:

Reinhold Blümel
Fred M. Ellis
Lutz Hüwel
Thomas J. Morgan

ASSOCIATE PROFESSORS:

Francis Starr
Brian Stewart, *Chair*
Greg Voth

ASSISTANT PROFESSORS:

Tsampikos Kottos
Christina Othon

GRADUATE PROGRAM

The Physics Department offers graduate work leading to the PhD and MA. Our program permits the design of individual programs of study and allows the development of a close working collegueship among students and faculty. The department encourages its students to start research right from the start, rather than spend one or two years solely on course work before getting into research. To this end, graduate students are expected to join in the research activities of the department upon arrival and must have done some work in at least two research areas before embarking on a thesis project. An interdisciplinary program in chemical physics is available to interested students. For more details, see the listing for chemical physics in the Chemistry Department.

For the PhD degree, in addition, students must have taken (or placed out of) five PhD-level graduate courses. Students must have demonstrated proficiency in the main subject areas of physics by the time they have completed the program. Each student, during the first year of graduate study, selects an advisory committee of three faculty members. The committee assists the student to design a program of study, monitors, and makes annual recommendations to the department regarding the student's continuation in the program. The advisory committee also administers the examinations described below.

Although the emphasis in the program is on independent research and scholarly achievement, graduate students are expected to improve their skills at teaching and other forms of oral communication. Each student is given the opportunity for some undergraduate teaching under direct faculty supervision. While this usually consists of participation in the teaching of undergraduate laboratories, direct classroom teaching experience is also possible for more advanced and qualified students. In addition, each student who has passed the candidacy examination (described below) is required to present an annual informal talk on his or her thesis work in a departmental seminar.

Experimental research areas are concentrated in atomic-molecular physics and condensed-matter physics. Current interests include Rydberg states in strong fields, molecular collisions, photoionization, laser-produced plasmas, quantum fluids, and granular and fluid flows. Current theoretical and computational research areas include nonlinear dynamics, quantum chaos, properties of nanostructures, and soft condensed matter.

REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

Course. In consultation with the advisory committee (or, for incoming students, with the graduate advisor), each student plans a program of study that will ensure an adequate grasp of the main subject areas of physics—e.g., quantum theory, including atomic and condensed matter physics; electromagnetism and optics; classical dynamics and relativity theory; and thermal and statistical physics. While this will normally be a graduate-level (500) physics course, under special circumstances a lower-level physics course, a course in a related discipline, or a tutorial may be chosen.

Research. During the first year, each student should associate with at least two different research groups by spending a semester with each group. During the second year, research with one of these groups may be continued or still another research area may be explored. This second-year research activity will normally form the basis for the PhD candidacy examination and may develop into the subject matter of the thesis.

Examinations. Three formal examinations serve to define the various stages of the student's progress to the degree. The first, usually taken at the beginning of the second year, is a written examination on material at an advanced undergraduate level. Advancement to the second stage of candidacy depends on passing this examination as well as on course work and demonstrated research potential. Usually during the second semester of the second year, each student takes the PhD candidacy examination. This consists of an oral presentation before the faculty, including the student's advisory committee, describing and defending a specific research proposal. (The proposal might—but need not—grow out of previous research, nor need the proposal be adopted by the student as a thesis topic.) The committee then recommends to the department whether to admit the student to the final stage of PhD candidacy or whether to advise the student to seek an MA degree. The final oral examination, taken when the dissertation is completed, is described below.

Dissertation. Each candidate is required to write a dissertation on original and significant research, either experimental or theoretical, supervised by a member of the faculty. The work must be defended in a final oral examination administered by the advisory committee. This oral examination covers the dissertation and related topics and is open to all members of the Wesleyan community. It is expected that the candidate will submit the results of his or her work to a scholarly journal for publication.

REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS

A minimum of eight credits with grades of B- or better is required for the MA degree. These may include three in research leading to the thesis, which is also required. Course selection is flexible and is done in consultation with the faculty advisor and with the members of the student's committee.

PHYS500 **Graduate Pedagogy**

IDENTICAL WITH: BIOL500

PHYS501/502 **Individual Tutorial, Graduate**

CREDIT: 1

PHYS504 **Selected Topics, Graduate Science**

CREDIT: 1

PHYS505 **Condensed Matter Physics Seminar**

CREDIT: .25

PHYS506 **Condensed Matter Physics Seminar II**

CREDIT: .25] SPRING 2009

PHYS507 **Atomic and Molecular Physics Seminar I**

CREDIT: .25

PHYS508 **Atomic and Molecular Physics Seminar II**

CREDIT: .25

PHYS509 **Theoretical Physics Seminar I**

CREDIT: .25

PHYS510 **Theoretical Physics Seminar II**

CREDIT: .25

PHYS511/512 **Group Tutorial, Graduate**

CREDIT: 1

PHYS513 **Classical Dynamics**

IDENTICAL WITH: PHYS313 CREDIT: 1

PHYS515 **Quantum Mechanics II**

IDENTICAL WITH: PHYS315 CREDIT: 1

PHYS516 **Thermal and Statistical Physics**

IDENTICAL WITH: PHYS316 CREDIT: 1

PHYS521 **Physics Colloquium I**

CREDIT: .25

PHYS522 **Physics Colloquium II**

CREDIT: .25

PHYS524 **Electricity and Magnetism**

IDENTICAL WITH: PHYS324 CREDIT: 1

PHYS525 **Radiation and Optics**

IDENTICAL WITH: PHYS325 CREDIT: 1

PHYS542 **Experimental Optics**

IDENTICAL WITH: PHYS342 CREDIT: .5

PHYS545 **Electronics Lab**

IDENTICAL WITH: PHYS345 CREDIT: .5

PHYS547 **Digital Electronics**

IDENTICAL WITH: PHYS347 CREDIT: .5

PHYS556 **Atoms and Molecules**

IDENTICAL WITH: PHYS356 CREDIT: .5

PHYS558 **Condensed Matter**

IDENTICAL WITH: PHYS358 CREDIT: 1

PHYS563 **Analytical Mechanics**

CREDIT: 1

PHYS565 **Mathematical Physics**

CREDIT: 1

PHYS566 **Electrodynamics**

CREDIT: 1

PHYS567 **Statistical Mechanics**

CREDIT: 1

PHYS568 **Quantum Mechanics**

CREDIT: 1

PHYS571/PHYS574 **Advanced Topics in Atomic and Molecular Physics**

CREDIT: .5

PHYS572 **Advanced Topics in Atomic and Molecular Physics**

CREDIT: .5

PHYS573 **Advanced Topics in Condensed Matter**

CREDIT: .5

PHYS574 **Advanced Topics in Condensed Matter**

CREDIT: .5

PHYS575 **Advanced Topics in Theoretical Physics**

CREDIT: .5

PHYS576 **Advanced Topics in Theoretical Physics**

CREDIT: .5

PHYS587 **Seminar in Chemical Physics**

IDENTICAL WITH: CHEM547

PHYS588 **Seminar in Chemical Physics**

IDENTICAL WITH: CHEM548 CREDIT: .25

PHYS589 **Advanced Research, BA/MA**

CREDIT: 1.5

PHYS590 **Advanced Research, BA/MA**

CREDIT: 1

PHYS591/592 **Advanced Research, Graduate**

CREDIT: 1

Code of Non-Academic Conduct and Academic Conduct

Wesleyan University's Honor Code and Code of Non-Academic Conduct:
wesleyan.edu/studenthandbook/3_honorsystem.htm

STANDARDS OF CONDUCT GRADUATE JUDICIAL BOARD

A. Responsibilities

The Graduate Judicial Board (GJB) shall hear complaints against graduate students involving alleged violations of the University Code of Non-Academic Conduct and the Honor Code. The proceedings of the GJB will be carried out in conformity with the Guidelines for University Disciplinary Proceedings.

B. Composition and Tenure

1. The voting membership of the GJB shall consist of five graduate students, each serving a one-year term.
2. The advisory committee of the GJB shall consist of the director of graduate student services, and the director of graduate studies.

C. Jurisdiction

1. These rules are intended to cover both full-time and part-time graduate students. Any undergraduate, graduate student, faculty member, or member of the Administration may bring a complaint against a graduate student through the GJB.
2. The GJB shall be responsible for primary adjudication of all alleged violations by graduate students of the University's codes of conduct (see Section A) except those that require extraordinary administrative action according to criteria jointly established in advance by the director of graduate programs and the Graduate Council. Extraordinary cases are: those which occur during vacations and recesses in which the person accused requests resolution prior to the time at which the Board can next be convened; emergency cases in which the director of graduate student services, in consultation with the director of graduate studies, determines that an imminent and likely danger to persons or property requires the immediate, temporary suspension of an individual, pending a full, formal hearing of the Board to be held at the earliest opportunity; and cases in which the defendant admits responsibility and requests administrative disposition of the case, in which event the director of graduate student services shall consult with the director of graduate studies.
3. In judicial matters the Board shall receive evidence, hear witnesses, determine guilt or innocence, and recommend sanctions to the director of graduate student services. The considered judgment of the GJB shall be taken by the director of graduate student services as a binding recommendation, to be modified only in extraordinary circumstances and with the approval of the Graduate Council.
4. Only the defendant may appeal an adverse decision of the GJB. Such an appeal is directed to the President, who, in consultation with the Graduate Council, shall establish such procedure for hearing appeals as he/she deems appropriate.
5. The GJB may require the cooperation of any member of the university community in furnishing testimony or evidence, except that no member of the university staff with whom an accused has entered into a confidential relationship can be required to give information arising from that relationship without the permission of the accused. Furthermore, the GJB shall excuse a witness if it concludes that by giving testimony the witness may be endangered.
6. Whenever the GJB considers it desirable to change the standards, structures, and procedures under which it operates, it shall propose such changes to the director of graduate student services, director of graduate studies, and to the Graduate Council. Authority to enact such changes is vested in the President, who acts in consultation with the Graduate Council.

** By Trustee resolution, the President is responsible for establishing and implementing all policies governing student conduct "in consultation with the Faculty." For purposes of clarity, however, frequent reference will be made in this document to the director of graduate student services in consultation with the director of graduate studies and the Graduate Council, since each exercise much of the operational responsibility for implementing the policies.*

D. Selection

1. The voting members of the GJB shall be selected from among the registered full-time graduate students of the University.
2. All five voting members shall be selected to one full academic year which includes both fall and spring semesters. Additional members may be selected to fill vacancies. They will serve for the duration of the unexpired term. Members of the GJB will be expected to participate in an orientation session.
3. Voting members shall be elected by the Graduate Student Association.
4. A voting member of the GJB may be removed from the Board, for cause, by the Graduate Council, according to procedures established by the Council. Complaints against a voting member of the GJB should be submitted to the director of graduate student services in consultation with the director of graduate studies for forwarding to the Graduate Council.
5. A member of the GJB may serve concurrently on the Graduate Council.
6. No advisory member of the GJB shall sit in the appeal of any case in which he/she participated in an earlier stage.

E. Officers

1. At the first meeting of the GJB each semester, the voting members shall elect a chair.
2. The chair shall receive complaints forwarded by the director of graduate student services in consultation with the director of graduate studies. The director of graduate student services with the chair's assistance shall schedule the complaints for mediation or adjudication as appropriate. The director of graduate student services shall maintain records and shall handle correspondence for the GJB. The officers may request administrative support in the performance of their duties from the director of graduate student services and/or the director of graduate programs.

F. Procedure

1. Complaints are to be submitted in writing to the director of graduate student services for transmittal to the GJB. The student charged with a violation will be notified promptly of the charge in writing, together with a statement of his/her rights and the procedures to be followed by the Board in addressing the charge.
2. Minor cases, defined as those that do not carry the potential for severe sanctions, may not require elaborate process. The director of graduate student services, in consultation with the chair and in consultation with the director of graduate studies, will determine whether a given case is minor when the charges are first submitted.
3. The GJB shall attempt to resolve cases by mediation prior to any formal adjudication. In order to permit the expeditious handling of cases in which mediation is feasible or of minor judicial matters, the GJB may, with approval of the Graduate Council, develop simplified procedures and may delegate the responsibilities for mediation or adjudication to one or more of its members.
4. Except as approved by the director of graduate programs and the Graduate Council, all members of the GJB shall have an absolute obligation to treat as confidential all proceedings and decisions of the Board.
5. Three voting members of the GJB, at least one faculty advisor (preferably the director of graduate programs), and the director of graduate student services must be present for the hearing of a case.
6. Any voting member who feels prejudiced in a given case shall disqualify himself/herself and shall be replaced by another voting member. The partiality of a voting member may be raised by the complainant of the defendant prior to the hearing.
7. Decision as to guilt or innocence and the determination of sanctions shall be by majority vote of the members voting.
8. All judicial hearings shall be conducted in accordance with the standards of fair process (see Sec. VI of the "Joint Statement on Rights and Freedoms of Students"). (It should be noted that an elaborate process is not necessary in minor cases-see Section F.1.) The defendant will not be compelled to testify against himself or herself and no inference of guilt or innocence will be drawn from a defendant's failure to testify. The defendant will be given an opportunity to testify and to present evidence and witnesses. The defendant will also have an opportunity to hear and question adverse witnesses. The complaint must be established by a fair preponderance of the evidence. The defendant may review documents and records concerning to the case filed with the Board, except for confidential

educational and disciplinary records of others. In the absence of a transcript, there should be both a digest and a verbatim record, such as a tape recording, of the hearing.

9. Nonvoting advisory members shall have full voice but no vote in all judicial deliberations.
10. Sanctions employed by the GJB shall be drawn from a list of established sanctions approved in advance by the director of graduate student services and the director of graduate studies.
11. The GJB shall inform the director of graduate student services and the director of graduate studies when a faculty member brings a charge of violation of academic standards, the GJB shall inform the director of graduate student services and the director of graduate studies of the sanction it deems appropriate. The director of graduate student services in consultation with the director of graduate studies shall implement the decision in the name of the University in cases involving the student's standing as a member of the University and in cases of violation of the Honor System.
12. The GJB shall maintain records in a manner approved by the director of graduate student services and the Graduate Council and shall adhere to such other procedures as the directors and Graduate Council may, from time to time, establish.

